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Rock Products

DEVOTED TO THE PRODUCTION
AND SALE OF ROCK AND CLAY PRODUCTS.

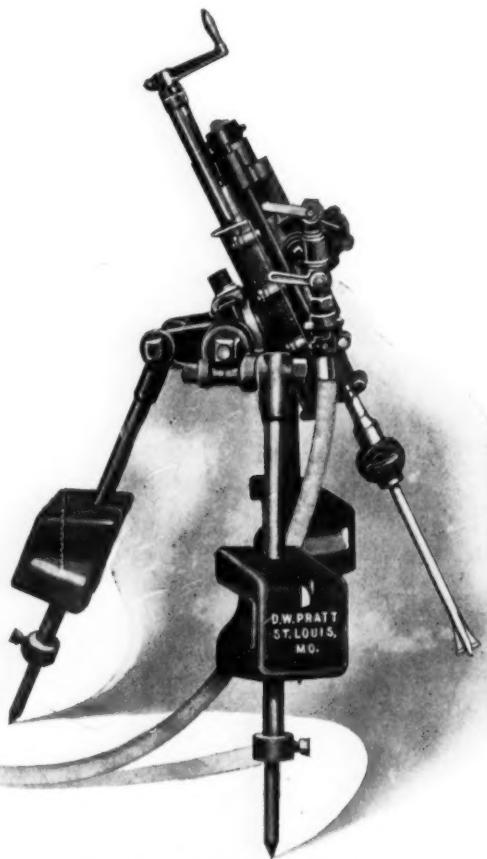
Vol. III.

LOUISVILLE, KY., AUGUST, 1904.

No. 5.



The Barre Committee Preparing the Barbecued Feast for the Joint Outing.



PRATT'S IMPROVED ROCK DRILL.

D.W. Pratt

Machinery Company.

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THE VALVE, which is the most important part of a rock drill, is of the Corliss or Rotary design and retains a perfectly steam or air-tight seat under all conditions.

Its movement is ABSOLUTELY and PERMANENTLY POSITIONED under any pressure. IT WILL START AUTOMATICALLY AT ANY PART OF THE STROKE. It will run at any speed desired, whether the VERY FASTEST or the VERY SLOWEST without danger of stopping. It will require LESS STEAM or AIR to do a given amount of work than any other drill, the valve being so constructed that the piston is POSITIVELY REVERSED.

It has a variable stroke and can be used at a stroke where others fail; this being one of the essential qualifications of a good drill, especially in starting a hole or working through seams. It strikes a very hard blow and its recovery is instantaneous. It has no peer as a mudder.

Our drills are made of the very best material the market affords, by skilled workmen, and with new and improved machinery, and particular care has been taken to make them the best on the market. All parts are interchangeable.

Complete plants of Machinery for Mines, Quarries and Contractors.



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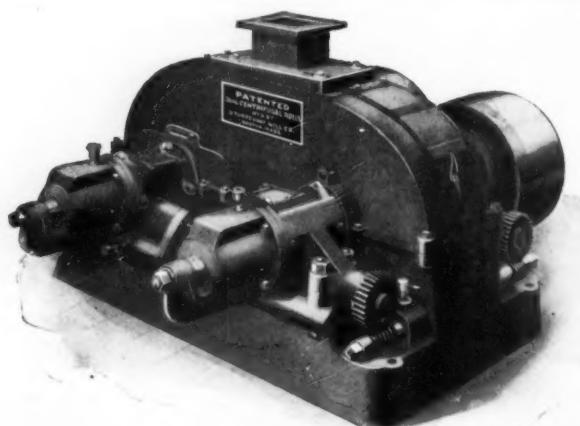
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It is not the color of the Strand that makes Monarch Rope so superior, but the material it is made out of. The Whyte strand merely ensures you getting the right rope.

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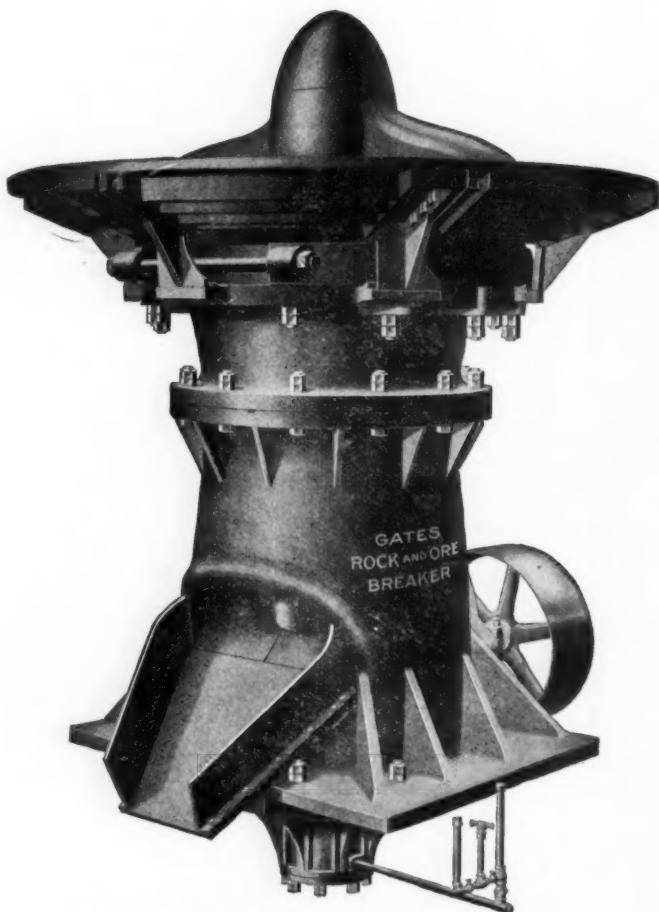
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Gates "K"

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Increasing Feeding Capacity
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Electrical Apparatus
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 CHEMICAL PROCESS FOR
Hydrating Lime.
 FULLY COVERED BY PATENTS.

Requiring only a small amount of machinery, it is most simple and economical in working and most perfect as to results obtained, making thoroughly HYDRATED LIME by QUICKEST and CHEAPEST known process. It requires no Bolting Reels, Screens, Mixing Machines or Storage Bins, and can be readily installed in any lime house, adjoining a lime kiln. It is, therefore, not very expensive to install, and is within the reach of all manufacturers of lime.

Two years of critical use by one of the largest firms in the City of New York, have proven the product so thoroughly satisfactory that said firm has arranged to take all the output of two plants using the O'Connell & Feely Process.

The process can be seen in operation at the plant of the James O'Connell Lime Co., at White Plains, N. Y., 22 miles from the New York City Post Office. Also at the plant of O'Connell & Hillery Company, Tuckahoe, N. Y.

Now is the time for considering the installation of a plant to hydrate your lime and I earnestly solicit your correspondence thereon. A Sample of HYDRATED LIME made by the O'Connell and Feely Process will be gladly mailed to parties wishing same, on receipt of application therefor.

FOR SALE—The PATENT RIGHTS for Canada and England of the O'Connell & Feely Chemical Process for Hydrating Lime. This is a business opportunity without parallel. Address,

JAMES O'CONNELL,
 651 W. 131st Street, New York, N. Y.

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W. H. FISHER, Patentee.

Architects recommend it. People are delighted with it.

A Sure Money Maker.

We have solved the building material question. Every block a perfect one, because the tamping is done by hydraulic pressure and automatic hydraulic kneading, which drives out all of the air and closes all of the voids. The machine is entirely automatic and the process such that the necessary chemical reaction is not hindered. All shapes and designs, veneer blocks for frame structures, angular blocks for hollow walls. Walls built from our block are absolutely sanitary. We make thousands in a day, large profits are beyond question. Our product is in constant demand. This is the only system which at once removes the brick from the iron or wooden mold, thus giving the hardening process the greatest possible freedom. A plant can be seen in full operation at Memphis, Tenn., where the Memphis Hydraulic Stone Co., have one of the finest up-to-date plants in the country.

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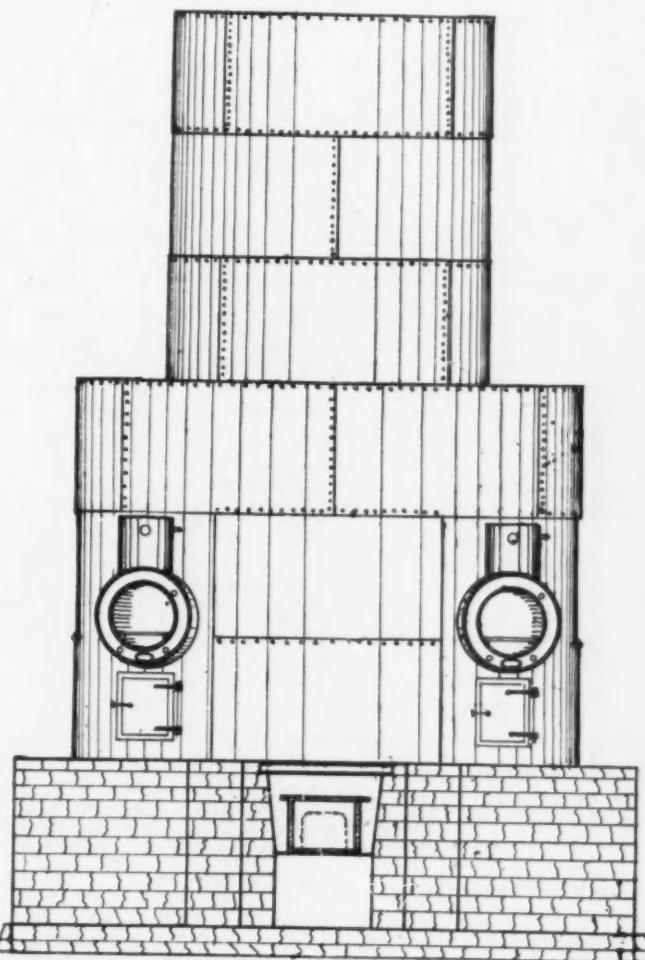
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 Patented Boiler Arch and
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Built on stone foundation, 6 feet high. Solid brick kettle, capable of fully withstanding weight of falling stone. Only kiln with inside arches, thus confining all heat and avoiding loss from radiation. None of the usual repairs on outside of fire boxes caused by expansion and contraction. No burning out of iron work around fire boxes. If outside shell of kiln is painted twice a year with coal tar there is absolutely no wear-out of the iron. Adapted to burn soft coal, crude oil and wood.



OUTSIDE VIEW OF BOILER.

Turns out more lime, with same heat, than any other kiln. Draft is always regular and under control, regardless of weather. Same heat that burns lime-rock makes steam to operate conveyor carrying stone to top of kiln, about 50 feet high, and also serves to pump out quarries if situated within reasonable distance, AND ALSO MAKES THE STEAM TO RUN THE BLOWERS WHICH PRODUCE THE COMBUSTION TO BURN THE OIL OR SOFT COAL. Boilers always carry full dry head of steam, and arches do not burn out where boilers are placed in. This patent will save you at least 20 to 30 per cent. on burning lime. Only kiln in market to-day turning out perfect product at reduced cost, doing its own work and running as nearly automatic as possible. This kiln burns either lime or cement rock.

THESE BOILERS CAN BE FITTED IN THE ARCH OF ANY KILNS
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Which we guarantee will permanently remove iron, sap, and oil stains from granite without injury to the stone.

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National Brick Machinery Co.

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Republic of Mexico, No.	2,492.	Sweden, No. 14,549.
Spain, - - -	No. 28,558.	Austria, No. 12,696.
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And all pending patents on the regulation and control of the temperature and volume of Flame.

THE ELDRED PROCESS

is the only method of making a "Wood Flame" from coal. All Lime Manufacturers recognize the wood flame to be the only satisfactory flame for lime burning. The Eldred Process will save 25 to 60 per cent on the fuel account and will burn better lime. There is no stoppage of plant during installation and no expense for the equipment until a demonstration of the saving is completed. Correspondence is invited.

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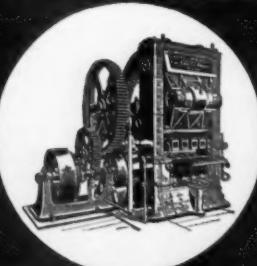
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FOR ALL PURPOSES

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MILWAUKEE, WIS.



Entered as second-class matter March 4, 1904, at the Post Office at Louisville, Ky., under the Act of Congress of March 1879.

THE FRANCIS PUBLISHING CO.,
Publishers.

E. H. DEPEBAUGH, President and Manager.
FRED W. RUGG, Secretary.

A monthly trade journal devoted to the interests of the manufacturers and dealers in rock products and kindred lines, including Lime, Cement, Salt, Sand, Slate, Granite, Marble, Sandstone, Grindstones, Artificial Stone, Emery Stone, Quarries, Monuments, Manganese, Asphalt, Phosphates, Plaster, Terra Cotta, Roofing and Roofing Tile, Coal, Oil, Mineral Wool, Brick, etc.

The mission of ROCK PRODUCTS is to serve the trade in any and every honorable way possible, to promote better profits and make life more pleasant for those engaged in the business to which it caters. With this end in view, criticism is courted, and all are invited to use its columns to further ideas and suggestions for the good of the trade. The office, too, is at the service of the constituents of this paper; so when you want to buy or sell, or merely ask a question, write, and when you are in town, call and make it your headquarters.

"TELL 'EM YOU SAW IT IN ROCK PRODUCTS."

SUBSCRIPTION RATES, \$1.00 per annum, postpaid anywhere in the United States, Canada or Mexico; \$1.50 elsewhere in the Postal Union. Single copies, 10 cents.

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THE FRANCIS PUBLISHING COMPANY,
431 W. Main Street, Louisville, Kentucky

BRANCH OFFICE, NEW YORK CITY:

Room 502, 136 Liberty Street,
ALEXANDER CRISTADORO, Manager.

LOUISVILLE, KY., AUGUST, 1904.

The Barre Outing.

The pleasure of this occasion was not lessened from the fact that the men from the home of John Quincy Adams and their hosts in the Green Mountains have become brothers, they appreciate each other, they are glad to exchange ideas as to their methods. The Quincy Manufacturers were delighted and surprised at the large operations and up-to-date methods of the manufacturing and quarrying of Barre granite. But they had nothing but kind words to say to the hosts who opened their doors wide, and showed them everything about the shops. Certainly the benefits derived from this gathering will be a closer walk between the manufacturers of these principal monumental cities producing perhaps 75 per cent. of the monumental work sold in the United States. And that will mean, as one manufacturer stated, "They will no longer be satisfied with three dollars a day for their work, their brain, and surplus energy thrown in." That the efforts of the producers of the granite quarried and manufactured in Quincy or Barre should be to increase the volume of business, as well as to be sure that no order shall be made at less than a profitable basis, after which we would suggest that the next committee appointed for an outing and a joint session of the granite trade, that invitations be sent to the retail-granite dealers to attend this outing, and thus cement together quarrymen, manufacturer and dealer, in one grand rally to add to the satisfaction and profits of business.

We have not heard much from the cut stone men lately. Boys, why don't you profit by the example of the Barre and Quincy manufacturers and have an old-fashioned jollification of all the soft stone interests.

ONE cement manufacturer has said, "the profusion of elegant raw material is the curse of the industry."

THE slate people need to get a hustle on themselves and see that cement tile and cement shingles do not get too much of their business.

CEMENT roofing tile and cement shingles are past the experimental stage, and are coming strong. They make a very pretty roof.

HAVE you seen the National Builders Supply "News Bulletin?" If not write Richard Kind, Spitzer Building, Toledo, O., and find out how to get one.

CONCRETE-BLOCK, both hollow and solid, are becoming popular in all sections, and it is a busy man that can keep track of all the new machines and all the new block plants springing up.

THE Detroit meeting of the National Lime Manufacturers Association was a great business building occasion, of profit and a joy to be remembered by all who were fortunate enough to attend.

THE plaster manufacturers are none too cheerful. This has been a quiet summer for them, notwithstanding they have put plenty of energy into the business. We do not mean they have been losing ground but that there is little building going on.

THE hydration of lime is fast getting to be a profitable feature of that industry. At the recent meeting in Detroit the hydrating division held a separate session and adopted a number of useful standards which are fully taken up elsewhere in this paper.

THE World's Fair at St. Louis is now complete in all its details. A great many people seem to think and speak of the unfinished portions. There is no such portion. It is the greatest ever, and we assure you that Moses at the Palace of Mines and Metallurgy has a welcome for all.

Most manufacturers wisely prefer to handle all their product through the dealer. There are many manufacturers who would like to see the National Builders Supply Association recognize towns as eligible to membership, which have a much smaller population than that which is now considered eligible.

THE trip to the hydrating plant of the Urschel Lime Co., at Sugar Ridge, Ohio, which was given under the auspices of the Clyde Iron Works, of Duluth, Minn., was one of the most instructive features of the National Lime Association meeting at Detroit, and by no means the least enjoyable.

WE are glad to note the tendency of the retail monument manufacturers and dealer toward getting better prices. Now that most of you realize that you must have better prices, why don't you get busy and form a local association. Your competitor will kick himself when he learns he sold a job for less money than necessary.

THE retail monument man should always aim at originality of designs. He should as far as possible avoid making or handling any thing exactly like his competitor is producing. If you all do this it will not be near so hard to procure better prices. Every one of you would rather handle three jobs, than five, if the total profits was the same. The reduction of prices will not increase the number of monuments set up.

Do not forget to keep in mind that the educational feature of the associations is one of the main cornerstones, and sometimes when it seems wise to omit a mid-summer meeting, think twice and hold the meeting, and the future will tell the tale that it was good policy. Meet often.

WE note that the composition roofers association is going to have another pow-wow in St. Louis this month. A few such pow-wows by all the manufacturers of vitrified roofing tile would be a good thing and probably the means of bettering conditions in this industry. Write to us and let us arrange for a meeting.

THE cement men have gotten down to a uniform basis. There should be a set of standard specifications which shall be accepted by all engineers. The results, however, should be obtained by everybody working under parallel conditions. This means, of course, that there should be carefully defined standard methods for testing.

OWING to the fact that the bag question has caused more ruptures between seller and customer than any one thing, there is a strong tendency to the more extended use of the paper package both for cement, hydrated lime and hard wall plaster. The use of paper eliminates any chance for differences. There is no loss to the consumer by careless workmen leaving a portion in the sack. Dealers are almost a unit in preferring a paper package.

DON'T forget that the aim and object of the National Builders Supply Association is to promote a better feeling among those interested in the material line, and to act as a clearing house for information, promulgating to its members from time to time such information as the conditions existing in the various trades in which the material man is interested. If you are not now a member, write for information. They have accomplished so much already you can not afford to be on the outside. Take the matter of membership up at once.

Good old summertime has come, but that is no reason why the producer and machinery manufacturer should lie down and say its no use going after business, one half of our customers are out of town on their vacations. Just bear this in mind, that the half who are at home are there to make needed repairs or improvements and are likely to be in the market for all kinds of things. If your old customers are out of town go around and make new acquaintances and friends and extend your field of usefulness.

The man who is hustling hard this hot weather is bringing in some good business.

THERE has been much discussion among the members of the National Builders Supply Association as to the most desirable point for the next meeting. The tendency seems to be toward the east at some place like New York, Philadelphia, or Baltimore. In our opinion this seems wise, since no meeting has so far been held east of Buffalo. The success of the last meeting at that place shows that the material men like to go east. The National Lime Manufacturers Association will also likely go east this winter and at about the same time, and it could probably be so arranged that those who attend both meetings would not need to go back West. There are many things in favor of an Eastern meeting Philadelphia is a convenient point for all.

ST. LOUIS=The World's Fair City.

A GLANCE AT THE CONDITIONS.

ST. LOUIS, August ——A year ago, when all our energies were devoted to the buildings of the World's Fair and the demand for materials and labor so seriously increased prices, the investor, as a rule scouted the idea of building or of doing any repairs or improvements that could possibly be avoided. The fear of over-building—bearing in mind what Chicago did in 1892-3 had also much to do with our restraint here. But now the construction work at the Fair is all over; materials have dropped down to the level of a normal demand, labor is plentiful for there are many men stranded here who find it difficult to get work at all. In addition to all this we find that, so far from over-building, we have not built enough for the wants of a modern city, and if the immense throngs that were anticipated had come to the World's Fair we would perhaps have been somewhat crowded. That they have not come as we expected can no longer be denied since President Francis himself in his recent public speeches deplores the fact.

The class of buildings in which most activity is noticeable is that of small dwellings, usually houses of two flats. These are, mostly, of the local material, brick, with stone foundations and stone trims. They are fitted with all the modern improvements that can be put in the lower priced dwellings and nearly all of them are arranged for furnace heat. There is no doubt that in about a year from now, when we have settled down to a regular pace and the "To-rent" signs begin to appear, that quite a number of the older style of dwellings will be empty, for the housewife dearly loves a new, fresh-smelling dwelling, "with all the modern improvements."

In addition to the economical dwelling house there are quite a number of constructions for business purposes in course of erection. These are mostly in the western sections of the city, for St. Louis is steadily following the course of empire and going West. In the older portions of the city, near the river, building operations are also going on and these may be expected to increase for there are dozens of structures that are little more than shacks, they are a disgrace to the city and ought to have been condemned long ago.

Very considerable activity in real estate transactions is shown on both sides of the river, which is the usual prelude to a demand for building materials.

The Wages Question.

The Master Builders Association is said to have discussed wages at a meeting recently, but no decision was come to on a wage scale. Wages are stated to be still above the union standard, though this statement might not be found to be strictly correct. The fact is it is rather difficult to know exactly what wages are being paid. There being now more labor than is needed the good old law of supply and demand is getting into operation. The brick masons scale calls for 65 cents per hour, but men seeking a job will offer to take from ten to fifteen cents less on condition that it remains a profound secret. I know one case where over a dozen men are at work and not one of them

Concrete Work.

There is quite a remarkable extension in the uses of concrete; not only for foundations, but for structures. Concrete foundations, where labor is not too expensive can be put down at a much lower cost than for rubble stone. I have heard the claim made that it can be done for half the money, but doubt whether that would be possible except under the most favorable conditions. The progress in the use of concrete is due to the fact that the production of Portland cement has become an American industry. An example of a public work in concrete is the Wabash railroad bridge now in course of construction at Lindell Boulevard, at the entrance of Forest Park.

Cement Blocks.

The cement block may be considered as a very near relation to concrete. This too has been made possible by the cheapening of cement. It is meeting with a surprisingly favorable reception by those who want to put up buildings, though the bricklayer objects to it, as a wall can be built much more rapidly with these cement blocks than with ordinary brick. There is some talk about getting its use prohibited, but that seems hardly probable.

Portland Cement Exhibit.

The exhibit of the Portland cement manufacturers of the United States, the cement pavilion out in the Mining Gulch, at the World's Fair, is "hastening slowly." It is in a favorable place to attract attention, at the back of the Palace of Mines and Metallurgy, near the Wisconsin State building and on the direct road to one of the landmarks, the giant birdcage. This cement construction exhibit, though one continuous building, is really three separate pavilions connected by a loggia and arcades. The foundation is ordinary concrete up to grade, thence up it is the Hennebique system of "armored," or "re-enforced" concrete. "Armored," or "re-enforced" means that iron rods are laid in the concrete at certain distances apart. I took a photograph of the work recently which shows the iron rods sticking up out of the walls ready to be built in. These rods are built in both vertically and horizontally. They are 5-16 in. round iron and are placed at about twelve inches apart in each direction. The advantages claimed for the monolithic structure are a gain in space as the walls can be thinner than when using other material. The building is lighter so the cost of the foundation is lessened and, where the so-called panels, or moulds into which the concrete



is getting standard, yet each man is supposed to have the full scale. In this case the men had the intelligence to meet the situation and get work at lower pay rather than none at all. If the union had as much wisdom as these individual members it would of its own initiative change the scale and bring it into harmony with the present conditions.

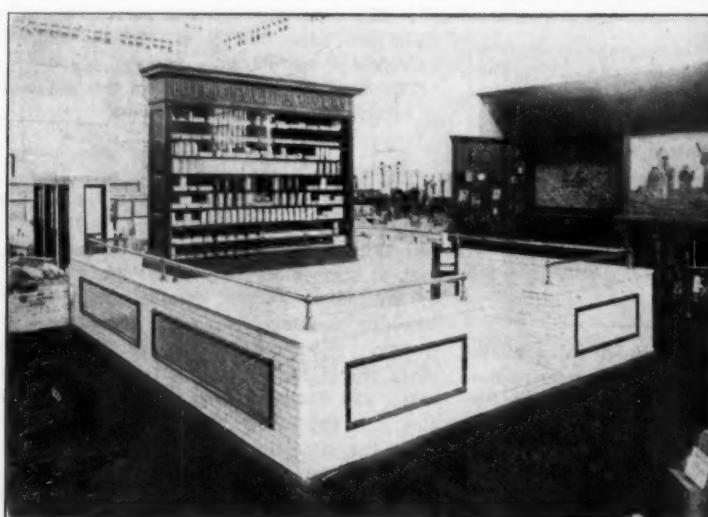


EXHIBIT OF THE BLUE RIDGE ENAMEL BRICK CO., NEWARK, N. J.

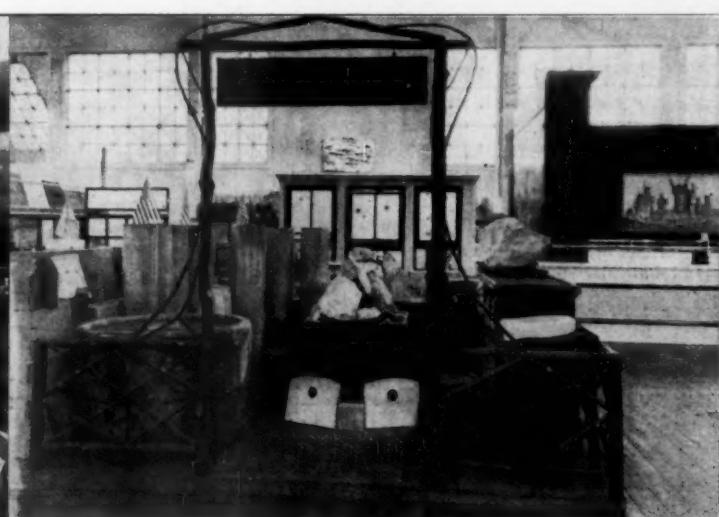


EXHIBIT OF FREDERICK E. BAUSCH.

is rammed, can be used repeatedly in the same building, the system is said to compete, both in price of labor and rapidity, with bricklaying. Then there are the incontestable advantages that all the parts of the building are homogeneous and strongly bound together. Mr. Hughes Broussel is in charge of the construction work and freely gives all information to anyone interested in building.

REPORTS FROM THE TRADE.

The St. Louis Portland Cement Company is doing a good business and prices are said to be fairly well maintained. A number of important contracts are still running.

Hunkins-Willis Lime and Cement Co., notwithstanding talk of depression in business over the country, this company is doing a very big business and is looking forward to a still larger business in the fall. This anticipation is based upon the reports and inquiries received. It does not seem as if anything can prevent a good business in the fall, and unless labor troubles arise and, happily, there are at present no indications of these. This company finds that the increasing use of concrete and of cement blocks is extending the market for cement. Prices are lower, not much higher than in the East. The difference is merely a question of freight and there is no present prospect of an increase. The lime business is good.

Charles W. Goetz Lime and Cement Co., Mr. Phil. J. Dauernheim stated that the building trade is improving and things are moving briskly. The company's retail trade has also been and is still very good. Prices of cement he characterised as "Very much demoralized, worse than they ever were." It seems though that these low prices have helped to bring about renewed activity in building operations. There is no change in lime and the trade is good. Such minor articles as wall plaster and mortar colors are doing well.

The Iola Portland Cement Co., the demand for cement here is very brisk. The manufacture of building blocks plays a part in the demand and the railway requirements are considerable. There have been some recent successful use of cement concrete linings for tunnels.

Carthage Marble and Lime Co., trade at the present time is not good with this company in St. Louis. This is due to the arbitrary and grossly unjust action of a trade union. The action of the union does not hurt the company's business at Carthage, where ten saw gangs are in full work, but it cannot be denied that it is quite successful in doing mischief in this city. The company runs thirteen saw gangs in all, three of them in St. Louis, or it would run the three if the union permitted. Prices of the materials remain the same as they have done for a long time. In addition to the marble at Carthage, which is a dense material, very resistant to weather and most suitable for outside work, the company handles Tennessee and Georgia marbles.

Anthony Ittner Brick Co., business is improved as compared with the past eight or ten months and still better trade is expected for the remainder of the year. Prices of brick are quoted at: Merchantable, \$7.25; ordinary hard and red, \$7.50; strictly hard and red, \$8.00. Mr. Ittner considers that the cost of erecting a building may be estimated at about fifteen per cent lower than it was a year ago.

The Allis-Chalmers Co. at the Fair.

Machinery Hall, unlike the other buildings of the exposition, is not closed in the evening, but is open until 11:00 p. m., and the Allis-Chalmers Co. extend a cordial invitation to their large circle of friends and acquaintances to call and see the big, 5,000 h. p. engine and generator producing the electricity which furnishes the current for the world-famous decorative lighting for the buildings and grounds of the exposition. The installation stands in the center of Machinery Hall with a commodious space all about it affording a fine view of the largest generating unit ever placed in an exposition. Visitors will find comfortable resting places, also writing desks and stationery, attendants who will receive and forward mail and telegrams, and who will check the parcels and wraps of visitors and provide ice water, all free of charge.

The management of Allis-Chalmers Co. have secured the services of Mr. Walter H. Whiteside who assumes the responsible position of general manager of their Sales Department. Mr. Whiteside is a man of force and also of delightful personality, and he is a man of wide experience, especially fitting him for the position he is now taking, and it is difficult to know whether to congratulate the Allis-Chalmers Co. on securing the services of such a man or to congratulate Mr. Whiteside for becoming identified with that powerful concern. The position of general manager, includes the business of the Bullock Electric Manufacturing Co., which is the electrical department of the Allis-Chalmers Co. Mr. Whiteside takes up his important duties with the good wishes of his very wide circle of friends and business acquaintances.

Demonstrating Plant at St. Louis Exposition.

The American Hydraulic Stone Co., of Denver, Col., have just perfected a system of steel and cast iron moulds for artificial stone, in which over 250 different shapes and kinds of blocks (including rock faced stone) are made. These moulds are handled by machinery which throws the mould into the press, takes it out, turns it over and releases the block. Mr. J. A. Ferguson, president of the company, is now in St. Louis, personally supervising the installation of exhibits at the World's Fair. A demonstration plant may be seen in operation in the Liberal Art Building, specimen walls outside—also an exhibit at the Cement Building.

The Lunkenheimer Co., with general offices and works located in Cincinnati, Ohio, also having branches in New York City, Philadelphia, New Orleans, London and Paris, have issued an invitation card to visitors to call and examine their exhibit in Machinery Hall 5-G Block 26 at the Louisiana Purchase Exposition, at St. Louis, Mo. The exhibit consists of a large line of high grade engineering specialties which they manufacture. On the reverse side of the card is their well known trade mark, consisting of a hand holding aloft a brass valve with the word "Lunkenheimer" upon the casting. Above this trade mark is inscribed the legend, "Look for This" in large letters.



Clay.

N. B. M. A. At the World's Fair.

There will be a social gathering of the members of the National Brick Manufacturers Association the first week in October at the World's Fair, St. Louis, for the purpose of taking in the wonders of the fair and having a good social time. He states that not the least interesting feature you will find in the N. B. M. A. exhibit of building brick used in Old World cities. The display is conspicuously located in the Mines and Metallurgy Building, and that the members will do well to make it headquarters whenever visiting the fair, for one is almost sure to meet some fellow-brickmaker there. Secretary Randall urges that every member attend if possible.

The Granite Brick Co., Des Moines, Iowa, is said to be turning out 30,000 ornamental brick and 70,000 hard burned brick a day suitable for builders or pavers.

The Newburgh Brick Co., has been incorporated at Newburgh, N. Y., with a capital stock of \$30,000.00. The directors of the concern are: J. S. Taylor, G. R. Mitchell and W. T. Hilton.

The Swoyer Brothers Brick Co., Allentown, Pa., has been incorporated by: Wm. J. Swoyer and Moses E. Swoyer, Allentown, and Oscar D. Swoyer, South Bethlehem. The office is in Allentown and Moses E. Swoyer is treasurer.

The Coney Island Brick Co., Brooklyn, N. Y., has been incorporated for the purpose of manufacturing brick, with a capital stock of \$50,000.00. The incorporators are J. A. Manahan and Jacob Wertheimer, of New York City, and H. B. Caery, of Brooklyn.

The Hastings Pressed Brick Co., Lincoln, Neb., has filed articles of incorporation with the secretary of state. The incorporators are: W. J. Hynes, C. B. Wahlquist, C. B. Tyler, A. H. Farns, C. B. Hutton, J. F. Scott and A. L. Clarke. The capital stock is \$50,000.00.

The North Birmingham Fire Brick and Paving Co., Birmingham, Alabama, has been incorporated with a capital stock of \$50,000.00. The officers of the company are: J. E. Budwig, president; H. W. Myers, secretary; R. H. Kerr, vice-president, and L. J. Haley, Jr., manager.

The Central Ohio Roofing, Tile and Brick Co., Columbus, Ohio, has been incorporated with a capital stock of \$30,000.00. This company proposes to make all kinds of clay products. The incorporators are: W. G. Worcester, J. F. Worcester, A. V. Bleininger, Wm. N. Jones and R. T. Jones.

The Medora Shale Brick Co., Medora, Jackson County, Indiana, has been incorporated with a capital stock of \$30,000.00, with the following directors: George W. Zollman, Cornell V. Trautman, Josiah L. Hunsucker, John R. Sutton, of Medora, and William Brangman, of Seymour.

The Continental Clay Products Co., Elizabeth, N. J., has been incorporated with a capital stock of \$100,000.00, with registered office at No. 1 Exchange Place, Jersey City, N. J. The incorporators are: Ernest L. Thompson, Peter A. Harris, George M. Laubshire. This concern will manufacture and deal in fire proofing material, bricks, etc.

The Riverside Brick Co., Birmingham, Ala., has capitalized at \$44,000.00 with the following incorporators: T. C. Thompson, W. H. Thompson and B. A. Thompson, the principal place of business being Birmingham. The incorporators have purchased the brick-making plant at Riverside, on the line of the Southern railroad between Birmingham and Anniston. They will operate it and enlarge its capacity from time to time. They have also acquired clay lands and will manufacture and sell brick.

From Our Own
Correspondents.

GREATER NEW YORK.

NEW YORK, July 28.—It has been a dull month generally amongst builders, and nearly everything relating to building supplies has partaken of that characteristic. One notable exception has been common brick, which has held up well and is tending higher. The yards are working full time and finding a ready market for all they can send along. Cement has been very low and has touched prices lower than any in the recollection of cement dealers. The demand has been much better than the price, and as a cement man said: "We are moving plenty of stuff, but we don't get anything for it."

The strike of the carpenters has been settled by their going back to work on union or non-union time indiscriminately. There is prospect of trouble over a demand of the union workers for union foremen, but a strong effort is being made to settle the difficulty.

At the present writing there is every prospect that the Building Trades Alliance will call a strike on the subway, which will throw out all the trades working there, in order to force one union body of painters to permit some of the work to go to another union body of painters. Another threatened strike on the sub-way by the Brotherhood of Painters with regard to double wages on night shifts had just been withdrawn, when the new one followed. A number of Brooklyn contractors who have adopted the new 8-hour rule and who used to pay their men \$1.50 now wish to pay \$1.20 and as a consequence most of the laborers are on strike and asphaltiting, paving and general street work is at a standstill.

The plant of the Uvalde Asphalt Paving Co., in Jersey City, at foot of Greene Street, was destroyed by fire with an estimated loss of \$50,000.

Speaking of the Old Common Brick.

Mr. W. K. Hammond said: "In view of the dullness that has seized some branches of the building trade the old common brick shows up very well. There is a great deal of small building going on, which makes business good for us. The demand is steady, prices are fair and the prospects are bright. Cargoes are now running at \$7.00 and higher a float, which is certainly a satisfactory figure, all present conditions being considered. Up in the yards the labor conditions might be better, as the supply of labor is scanty and the quality of it is so poor that when bricks were at \$5.50, labor was 15 to 20 per cent. more productive than now. The manufacturers are proceeding in a conservative manner and are keeping the output within a reasonable ratio to the demand. The making is not being overdone anywhere and this course is rendering all the ways smooth and redounding to every one's advantage."

Condition of Depression in Cement.

Mr. Hiram Snyder said: "There is nothing in the cement business just now to justify any extended remarks about it. The same unsettled conditions have obtained during June rendering it a very disappointing month for the trade. Prices have gone lower than I have ever known them, and conditions have been unusually poor. Personally we can not complain, as we have got our share of whatever was going, the good and well-tried old name of Lehigh serving us in good stead; but generally the condition has been one of unprecedented depression, and there is nothing to be done except to weather it through in as philosophical and conservative manner as possible, and wait for the improvement, which must surely come along."

One of the interesting sights of the street is the Rockland-Rockport Lime Co.'s big 5-ton auto-truck. It is capable of carrying the equivalent of fifty barrels of lime and will go twenty-five miles on one charging. It is painted a white

enamel, and when filled with white bags of plaster, it is a very striking sight by its great size and its attractive whiteness.

The consumption of lime for the month has been a little held back because of the scarcity of common brick, which have not been nearly sufficient to meet the very strong demand for them. Nevertheless, Mr. Perry reports the demand for their lime to be fair, with no change from last month's prices.

Sand-Lime Brick.

The Schwarz System Brick Co., 10 Bridge Street, report that the Wilmington, Del., sand-lime brick plant has booked its first order for a million face brick and the plant when completed will be the largest in America. The Birmingham, Ala., plant has doubled its capacity in order to fill its present orders, the requisite new machinery being on the way, soon to be installed. The company has received a very gratifying letter from the leading architect of Birmingham, Ala., who is building a six story hotel there of the company's sand-lime brick, which said: "I am using the sand-lime brick in all my work and they are proving satisfactory in every way. They are uniform in color and size and absolutely true. They look well in any color of mortar and the sand used here gives them a bright, delicate and soft tone." Mr. Bergessen, of the Schwartz System Brick Co., is on a business tour through the west.

The Peerless Brick Co. are now getting the ground ready for the buildings for their sand-lime brick plant at 118th Street and East River, and Mr. Payne has removed his office to 541 E. 118th Street, that he may be near to supervise the work.

Artificial Stone Feature.

In a little chat about the general conditions of the cast stone trade, Mr. Scott, of the New York Cement-Stone Co., Flatiron Building, said: "It has been a plant of slow growth. The word 'artificial' was against us, and architects and builders said they did not want anything artificial in their plans. But by patience and assiduity, convincing them that the treatment of the product made it as perfect as a natural stone, we overcame their objections and got them to adopt it. Successive trials have confirmed the good opinion of its merits and the day of up-hill argument is passed for good."

An excellent specimen of the work of this company may be seen in Elihu Root's house at Park Avenue and Seventy-first Street. It is three stories, of Harvard brick, with limestone base and trimmings, facing over eighty feet, on the Avenue and forty-two feet on the street and on the area-way. It is topped by a cement-stone cornice of massive proportions, being 9 ft. 2 in. deep, 4 ft. 10 in. of this taking in the base course for the balustrade including the railings. The overhang is 3 1/4 ft. and the balusters are over 2 ft. It is returned up on the party wall in small blocks and all the heavy chimney caps and belts are of the same material. It has all the outward appearance, with the grain fracture, glint and density, of the limestone around it, and they can not be told apart on any ordinary inspection. The architects are Carrione & Hastings, and the builder is Andrew J. Robinson.

Messrs. Montfort & Weaver, of 45 Clinton Street, Newark, N. J., are the general sales agents for the "Lake" Building and Hollow Stone Patents. The product is composed of crushed stone and Portland cement mixed in plenty of water and is poured in patented moulds filled with water, where it remains till a complete natural crystallization takes place, when it is removed and placed in the open air till thoroughly dry and cured. All forms of ornamental blocks can be made as perfectly and clean cut as can be done in plaster of paris. When faced or tooled by hand, or power drill, they show up like clean cut natural stone. The density is very great as was evidenced by filling the hollow in the back of one of the blocks with water, which remained at absolutely the same level during a half hour's visit. Mr. Lake has built more than 3,000 houses in Washington and vicinity of these blocks. Messrs. Montfort and Weaver will send samples of the stone to any who are interested. They say that long and careful experimentation has shown that water does not penetrate it, nor does heat injure it, nor will frost and snow affect it in the least. It will not smut and soil as easily as natural stone, but preserves its clean and bright appearance.

The rights to the "Lake" Building and Hollow Stone Patents for the State of New Jersey have been purchased by the New Jersey Stone Castings Co., which has its principal office at 45 Clinton

Street, Newark, N. J. The officers are Albert M. Bowers, president; Hugh W. Watson, treasurer; Wm. Ronan, vice-president, and H. M. Montfort, secretary, the company being capitalized at \$125,000.00 in \$100.00 shares.

Slate Market Not Rushing.

Mr. Cushman, of the New York Consolidated Slate Co., 63 Fifth Avenue, reports that their quarry is exceeding their expectations and is opening up better and better the more they uncover it. Work on the mill is progressing slowly, but is not being rushed under the present conditions of the slate market, and moreover as they are having their stock profitably worked up at nearby mills.

Mr. A. J. Law, manager, of the Newport Stone Co., Newport, Mich., has had a wide experience in railroad building as superintendent of construction on large interurban roads. He is a man of original ideas and possesses the nerve to put some in execution. Their new 70 h. p. locomotive type boiler, of the best make in the country, was installed last October, and in spite of the fullest care it was found necessary thirty days ago to take out all the flues and put new ends on them. Mr. Law at once installed two electric motors to drive the machinery, taking power from the D. M. & T. Short Line Railway. He finds it to be both very convenient and economical. The plant consists of a No. 5 and a No. 2 Austin Crusher, the No. 2 to act as a recrush for the rejections from the No. 5; and with the new electric power the mill is crushing over 500 cubic yards of ballast per day of ten hours. He speaks highly of the Moran Flexible Steam Joint, which is manufactured in Louisville, Ky. By the use of these joints he does away with all hose on his steam drills, which will certainly appeal to every quarryman.

Monumental Comment.

The Harrison Granite Co., 42 E. Twenty-third Street, is completing a memorial to commemorate Benjamin F. Stephens, which will be set in Greenwood at a cost of \$10,000.00. The sculptor is Geo. T. Brewster, of New York. The design is that of a massive back canopy, with two heavy Doric columns from the base of which extends a double sarcophagus, which has been dug out of a solid ledge of rock. Under the canopy, and kneeling at the head of the two sarcophagi, is a bronze angel with wings at rest. The Harrison Granite Co. will also soon have completed another memorial in the pure classic style, strong and massive, to be set up in Kensico Cemetery in the plot of Judge W. H. Moore.

The Massachusetts Monumental Co., 150 Nassau Street, has just erected a monument in Rosedale Cemetery, near Orange, N. J. It is a cross, 11 feet high on three bases carved emblematically and decorated with ascension lilies and passion flowers. The material is of Westerly granite and over six months were consumed in the carving alone. It was designed by the company's New York representative, Mr. O. H. Leaman.

A very beautiful and original monument will be erected at Whitonsville, Mass., next spring. The sculptor is H. A. McNeil, of New York, associated with Professor Hamlin, of Columbia University as architect. The contract has been awarded to Booth Bros. and Hurricane Isle Granite Co., and will be of Connecticut white granite. This material was selected on account of its very fine texture and being especially suited to the treatment of the very delicate carving designed by Mr. McNeil.

The Difference in Estimates.

A monumental man said: "Look at this condition of things. Here is a very simple piece of work, with only some polished mouldings, which was figured on by three first-class firms. All of them quarrying and operating in the same district, paying equal wages, running equal hours, having equal facilities, all up-to-date, and having a like experience, and all being capable of the same quality of high-grade work. Just see the different figures they sent in. One quoted \$715.00; another \$690.00 and the third \$575.00. Now, how could there possibly be such an enormous difference between the first and the third? One would naturally look for a small difference of possibly as high as 5 per cent. between them. But if the lowest figure is right, then the top one is crazy. While if the highest is right, then where is there a dollar in it to the low man? We are up against such conditions constantly, and when you hear monumental men say that there is nothing in contract work, you can believe him. The very great harm of such big discrepancies in estimating is

that they encourage the contractor to look for more like them. After getting such an enormous difference in prices from three number one firms, equal in every respect, this particular contracting sculptor will never again believe that there is any bottom to prices and will shop around to an extent that he would not otherwise do.

If the lowest firm had been driven to the wall for business and forced to make such a price in desperation to get the order at any figure, the situation would be clear and needless of comment. But I know that none of them was in need of that particular job, and the big differences were only the result of faulty methods of figuring, which for the general good of the trade ought to be remedied."

The E. B. Ellis Granite Co., Northfield, Vt., is supplying the granite for a railroad station in Washington, D. C. The value of the granite alone is \$1,000,000. It is the white Bethel granite which is hard to cut and work, but which is very hard, dense and durable. The contemplated Municipal Building will probably be of the same material.

The Bedford Quarries Co., Flatiron Building, report that their local trade here last May made the biggest month in this section which they have ever had, and that June promises to exceed it. They are rushing along the stone for the Trinity Building, 111 Broadway, to Wm. Bradley & Son, who are dressing it in their yards at Nevins and Butler Sts., Brooklyn.

The O'Rourke Engineering & Construction Co., which firm has the contract for building the Pennsylvania railroad tunnel under the Hudson River, has placed the order with the Ingersoll-Sergeant Drill Co., for two central compressed air power plants to be located at New York City and Weehawken, N. J. This order includes six 36-inch stroke Corliss Air Compressors, each of 3,890 cu. ft. capacity. With the O'Rourke plant installed, the total number of Ingersoll-Sergeant compressors supplying air for sub-aqueous tunnels in New York will be as follows: 6 Class "A" Straight Line Compressors; 10 Corliss Duplex Compressors; 3 Class "H" Duplex Compressors, and 2 Class "G" Duplex Compressors.

The American Air Compressor Works, 26 Cortlandt Street, N. Y., has, amongst recent orders which they have closed with the stone trade, sold a compound two stage compressor to James McLaren, of Brooklyn, N. Y., and also compressors for Wm. Davidson, Wilmington, Del., and Jos. Polchinski, Rochester, N. Y. The American Air Compressor Works are also building a large number of compressors for the metal trade.

H. G. Kotten, 114 Liberty St., has some catalogues of Foster & Hosler, 415 Wabash Ave., Chicago, who are handling the Kotten tools in the central states. It is a thorough catalogue of forty pages containing illustrations and concise descriptions of everything they handle. Foster & Hosler will furnish complete pneumatic plants, installing the entire outfit under a full guarantee and will give comprehensive and practical instruction on all points to any purchaser.

The Louisville Drying Machinery Co., of Louisville, Ky., has established an eastern office in this city at 40-42 Water Street, under charge of Mr. H. W. Shepard. This company makes both steam and direct heat dryers for all purposes, including sand, ground quartz, limestone rock and phosphate and gypsum; also peat, fullers' earth and powdered coal for Portland cement works. In its main factory in Louisville the Company has a complete testing plant containing both hot and steam dryers, and all disintegrating machinery necessary for handling all the various products of rock. All samples sent to them will be cheerfully analyzed and tested by experts, and the results of such analysis and tests will be communicated to the sender with specifications as to the commercial and manufacturing value of the specimens so forwarded.

The American Process Co., 62 William Street, has sold two of their largest sized dryers for export, for the purpose of handling ores. One goes to Mexico and the other to South America. The Company reports some recent sales of a number of smaller dryers with a good steady demand for presses, as well.

The Pulsometer Pump Co. is sending three No. 9 pumps to Nova Scotia to a customer who has already in use more than twelve of this Company's pumps. They also sent July 14, a 5-inch mounted Pulsometer outfit with 25 h. p. boiler on wheels to Porto Rico to be used for irrigation purposes.

In the Rapid Transit Subway now nearing completion, there will be five signal towers built en-

tirely of Ferro-Inclave material by the Brownhoist Company, of 26 Cortlandt Street. One will be at Brooklyn Bridge, another at Fourteenth Street, a third at the Grand Central Station, and two at Seventy-third Street, one at each end of the platform.

The Manhattan Tool Co., of 136 Liberty Street, for its own convenience in getting out goods and shipping orders, and for the convenience of its customers in inspecting and ordering supplies, has removed its offices to the E. W. Bliss Co.'s factory where its tools are made, corner of Adams and Plymouth Streets, Brooklyn, where all inquiries are to be addressed.

SYRACUSE, NEW YORK.

SYRACUSE, N. Y., July 20.—The month of July in this section has been characterized by a dullness in the building trades, but the prospects are that better times are coming. The weather has been warmer than usual, and there has been a feeling among business men that they should keep their sails trimmed until after election.

News has just been made public that the New York Central Railroad has acquired the Syracuse Rapid Transit Co., and will run a system of trolley roads from Albany to Rochester. This will necessitate a large amount of building of track and the installation of electric plants.

The Solvay Process Co. has a new department which is attracting attention because of its rapid growth. It is the preparation of crushed stone to be used in concrete work and building roads. The company produces two sizes, a large size which is used by highway commissioners of rural districts and the smaller size for concrete work. The company operates a crusher at its quarries in Split Rock.

The Watertown Marble Co., of Watertown, N. Y., has had plans prepared for the erection of a large building to be used as a finishing department. The site will be between the present plant and Water Street. The building will be one story high and constructed of marble. All the latest machinery for the finishing of marble will be used in the plant. The concern has up to this time supplied the local trade and filled small orders from out of town for the finished product. The new venture indicates that business will henceforth be done on a larger scale. The company has orders now on its book aggregating over \$500,000.00. The new building will be equipped with an immense traveling crane running on a track forty feet between the rails. This crane will move the marble blocks from the cars to the sawing department and to the finishing room. Among the buildings which the company will construct of marble are the following: Camden Court House, Camden, N. J., Newark City Hall, Newark, N. J., Naval Cadet Quarters, Annapolis, Md., and the ten-story bank at Manitoba, Winnipeg, Manitoba. There are now employed at the works, forty men, but when the improvements are perfected between 200 and 300 will be employed. All grades of interior and monumental work will be turned out and it is hoped to have the new plant in operation by October. Besides the plant at Watertown the company operates a quarry at Gouverneur and a mill and quarry at Canton.

The office forces of the Syracuse Stoneware Co. and the New York Pottery Co. have been consolidated under the name of the Robinson Clay Product Co., with headquarters in New York City. The change will be effective on August 1. Both the companies are owned and controlled by the Robinson Clay Product Co., and the present move has for its object the getting of all its companies under one name, and establishing in New York the general eastern office. The eastern business will be placed in charge of Luther I. Foster who has been manager of the Syracuse Stoneware Co. The New York office will be established in the Flatiron building, and part of the office force employed here will be transferred there. The office and yard in Fulton Street will be retained for the distribution of goods.

Fires in the ovens of the Empire Coke Co., of Geneva, have been lighted and the active work of making coke and furnishing gas will be started in a short time. The buildings of this concern cover nearly three acres.

The Watertown Sand Brick Co. are receiving orders for their product which is looked upon as

a distinct success. The factory is located at Sandford.

The H. R. Clark Plaster Works at Auburn, N. Y., are doing a nice business manufacturing wall plaster and handling all kinds of masons' building material. The office and mills are at 169-173 State Street. They are the only manufacturers of wall plaster in Auburn.

The cement market is rather dull just at present although there is a prospect of a lot of paving and building which will help matters considerably. George W. Pack & Son, who are agents for Hudson River cement say that it is moving as well as could be expected. The Empire Portland Cement Works, at Warner, are closed down temporarily to work off the stock that has accumulated.

The brick manufacturers have been fairly busy up to the present time. The New York Brick and Paving Co. have been running at full capacity all summer, although they have not shipped out as much as usual. A large quantity of first-class pavers are piled on the yard for use in the fall. Considerable paving is in prospect in Syracuse, which will make a big hole in them.

The Merrick and Pack & Son brick yards have been busy turning out brick for contract. The Onondaga Vitrified Brick Co. has been supplying three million brick for the Court House and the contract will not be all filled for another month.

The Syracuse Mantel Tile and Marble Co. have been filling large contracts at Watertown including the Otis building and the residence of J. B. Taylor. They also put in a new floor in the office of the Rome Sentinel.

The new sand-lime brick plant of the Paragon Plaster Works will be entirely completed this month and the machinery will be installed in two or three weeks. The company is already to manufacture the product as soon as the machinery is in place. The output of plaster at the works is entirely satisfactory for this season of the year.

There has been a scarcity of bricklayers and workmen at brick yards this summer and contractors have been obliged to pay high prices for them.

The Gouverneur Marble Co., at a meeting of its stockholders on Saturday, elected Robert A. Ormiston and Morris A. Eckman directors in place of the late George P. Ormiston and the late Alexander Z. Turnbull. The following officers were elected: President and treasurer, Lewis Eckman; vice president, Lucy A. Turnbull, and secretary, Robert P. Ormiston. It was voted to erect a new marble office building equipped with all the latest devices, as the present office building has been found to be too small for the growing business of the company.

The Rystone Marble Co., has installed a new Corliss engine which has been tested and found to be in perfect working order. The company will begin operations soon, giving employment to a large number of men.

William McEchron, president of the First National Bank, of Glens Falls, has been inspecting Gouverneur marble with a view of placing a large order to be used in the construction of a new church at Glens Falls.

Sixty carloads of gravel per day are being taken from the Turnbull gravel pit near Gouverneur. A carload of 100 Italian immigrants arrived the other day to labor there.

The village of Carthage is considering a proposition to bond the village for \$8,000.00 for building cement walks.

Daniel W. Cummings, a pioneer in the salt industry of Syracuse is dead. Mr. Cummings was born in Ireland 75 years ago, coming to this country and engaging in the salt business when Syracuse was a salt center.

McDonald, Cutler & Co., of Vermont, who moved the big Crouse boulder from Split Rock, are having troubles settling suits that have sprung up like mushrooms along the path of the big rock. The latest suit is for \$5,000.00 and is brought by William Morgan, a farmer, who had his leg broken by the breaking of a cable.

The Clear Creek Gold Mining Co. is located about three miles from Harrisville, N. Y., where a plant has been built to extract gold from the deposits found there. It is said that the gold is there by reason of the glaciers which swept down from the north.

Thomas Talbott & Son, at 238 West Water Street, do a large roofing business.

A. L. Norton, representing the Hastings Asphalt Block Paving Co., has been in the city recently looking over the paving situation. His company is anxious to introduce the asphalt block pavement here. The block is composed of refined asphalt and pulverized trap rock and is represented

ROCK PRODUCTS.

to be less noisy, more durable than vitrified brick or sheet asphalt and it can be laid at about the same price as the better grade of brick pavement.

The following officers of the Northern New York Marble Co., of Gouverneur, has been elected: President, James C. Beach, of New York; treasurer, George B. Massy, of Watertown, and secretary, A. M. Jenson, of Gouverneur.

The Syracuse Improvement Co., is out of existence and will do no more work except to finish up a few odd jobs. The company was controlled by Charles M. Warner, the well-known owner of asphalt mines in Venezuela. Mr. Warner says that the company was not able to do business at a profit especially in laying brick pavement as the price of brick was so high.

The Sloat & Greenleaf Co., of Watertown, are agents for the Philip Carey roofing. Their office is at 11 to 15 Front Street.

John Doyle, of Albany, has the contract for laying 15,000 square yards of pavement at Oswego.

The office of the Syracuse Emery Mills Co., which was just formed, will have its office at Baldwinsville, N. Y. The company will manufacture emery wheels and hardware supplies. The capital is \$10,000.00. The directors are Joseph M. Jacques, Charles C. McCarthy and Frank J. Symansky. Mr. McCarthy is from Syracuse and the others are from Baldwinsville.

PHILADELPHIA, PA.

PHILADELPHIA, July 27.—The busy season in building operations here is now at hand, and a great deal of work is being done. Figures, given in detail below, show that the building trades are active. However there is no such boom in business as a cursory glance at these figures might indicate. The statement given is based on permits, rather than on work actually in course of construction. It is often a long time between the permit and the purchase of materials. While there is a good deal of work going on, the present activity in permits means more for next than for the present season.

There is a general complaint that a great deal of building is under consideration, with much figuring on bids with only a comparatively small amount of contracts being awarded. There is a general feeling already that next year's business will show great improvement. The city has been free from labor troubles since early in the spring, and the work under contract is going ahead rapidly. The new Bellevue Stratford Hotel is nearing completion, and a big force of men is at work on Wanamaker's new department store. These are two of the biggest single operations now going on. The stone cutters, roofers and building supply dealers generally are having a fair summer trade. The lime situation is unchanged so far as prices are concerned, but shipments are large, with a good strong demand.

Cement and Concrete Construction.

Cement manufacturers and dealers have the same old story to tell. Summer activity in construction has not been sufficient to advance prices. While the consumption has increased it has not yet absorbed the surplus product, and prices are low with no immediate prospect of an advance. One result of the present situation is to depress the inferior grades even more than Portland cement. At present prices Portland cement is being used in many cases where a cheaper article would be taken if Portland cement prices were not so low.

Cement manufacturers are still discussing the possibilities of the increased trade in connection with the Panama canal construction. When work is under way, it is expected that one million barrels a year will be consumed until the canal is completed. There is still uncertainty as to whether the government will undertake to manufacture its own cement. The general opinion is that such a course is not practicable.

While the Baltimore rebuilding has started at last and though there is a great deal of concrete construction to be done this year, cement makers do not expect any material increase in sales there until next year.

Building in Philadelphia.

The sum of \$17,364,955 was expended in building operations in this city in the six months ending yesterday. The figures from the Bureau of Building Inspection show that this amount represents 4210 permits for 7780 operations.

For the corresponding period last year 3656 permits for 6050 operations were issued, the amount involved being \$21,606,175. Included in these figures is the \$5,000,000 Wanamaker building, the permit for which was granted in March, 1903. Eliminating the cost of this building, the figures show an increase of 654 permits, 1730 operations and \$758,780 in cost over the same period of last year.

A remarkable feature so far this year is the unusual number of dwellings in course of erection, the figures showing 5050 two, three and four story houses, to cost \$9,565,950, as compared with only 2690, to cost \$6,191,585, in the corresponding period of last year.

BALTIMORE REBUILDING.

BALTIMORE, Md., July 26.—Rebuilding is well under way at last. About 250 buildings are in course of construction. Plans have been made for many more, and it is expected that these figures will be increased to 1,000 before winter arrives. About 2,500 buildings were destroyed.

In the rebuilding of Baltimore the wealth of other cities is being felt. From Philadelphia have come thousands and hundreds of thousands of dollars to invest in the buildings and land. In the actual work of construction, too, Philadelphia is claiming at least her share. Many of the largest contractors of the Quaker City have competed successfully in bidding for new construction, and are among the first to start the work. At least twenty of the 250 buildings now in course of erection are being put up by Philadelphia firms, and hundreds of others have been bargained for. They, too, have secured some of the best class of work yet given out. Cramp & Co., William Steel & Sons, Kendrick & Roberts, McCaul Company, Charles Gilpin and other large Philadelphia contracting firms have buildings under way.

From the Lehigh Valley, in Pennsylvania, is coming much of the building material. The famous cement of that section is proving very popular in the construction of fireproof buildings. Each day long trains of cars bearing this cement and pressed brick from the Keystone State come into the city. But from her own clay beds Maryland is producing bricks which also will appear conspicuously in the blocks of buildings destined soon to rise.

Timely lessons were taught by the great Baltimore fire. Never was there a greater opportunity to note the comparative effect of flames on various building materials. And the result of these lessons is being reflected in the reconstruction of the city.

Concrete In Favor.

The old Baltimore was a city of red brick. There were a few stone buildings, and some of concrete and of steel. Few were fireproof. The new Baltimore will be practically fireproof city, and instead of rows upon rows of dull red buildings there will be a diversity of color, which will be very striking. Several of the buildings to which the flames did least damage were of concrete. It is not strange, then, that concrete is figuring largely in the reconstruction.

Contrary to first expectations, the new Baltimore will not be a city of sky-scrappers. By a recently enacted law, no new building may exceed thirteen stories. The fireproof requirements are so stringent that few will exceed six stories. The extreme height of any building is limited to one hundred and seventy five feet. Any over eighty-five feet in height must be fireproof throughout. A noticeable feature of the fireproof construction is the predominance of metal window and door frames, instead of the old style wooden ones.

Plans for most of the bank buildings to be erected in the burned district call for one or one-and-a-half story structures of pressed brick, stone or concrete. Several will be faced with marble. All will cover more ground than those that were burned.

One of the largest chain of buildings now under way is on Lombard street, near Hanover, where Stewart & Co. are erecting nine large storage warehouses for the Johns Hopkins Hospital.

Lack of Capital Apparent.

The average class of buildings already contracted for are of a cheaper grade than was anticipated by contractors directly after the fire. In several instances plans calling for buildings from six to twelve stories in height have been cut down to

half the size. The Maryland Casualty Company, on North street, near Fayette, had planned for a twelve story building. The plans were eventually discarded, and a two-story structure is in progress. The Galtier building, on North Charles street, originally planned for ten stories, has been cut down to six. So it is with many others. Capital seems to be wanting.

PROVIDENCE, RHODE ISLAND.

PROVIDENCE, R. I., July 19.—The season right down to date has been rather uncertain and unsatisfactory. There has been considerable work done in town along construction lines and for interior decoration, but in general, business has not been over good. Monumental work, especially of a smaller character, has not been rushing, the cause of it being laid chiefly to the hard winter, but there is a general feeling that the fall trade will be good, for the reason that much business that was held back this spring by the unusual weather conditions will be taken up and given out for construction in September and October.

Fine Stone Imported From France.

At the Rhode Island Brown Stone Works, on Leland Street, Mr. Searle was quite busy directing the loading of some large blocks of cut granite, but he very kindly accompanied the writer around the yard and pointed out various items of interest. Under one shed the men were finishing up two blocks of granite 14 ft. 4 in. by 2 ft. 8 in. by 12 inches, the last of eight of the same size which were taken from the firm's quarries in Sterling, Conn. The eight blocks are to form entrance steps for the Catholic School and Catholic Convent at Central Falls, the entire amount of granite used in the two buildings being 600 cubic feet. They are also furnishing 1,000 cubic feet of cut granite for the Bronson Building in Attleboro. All the brownstone, blue stone and granite in the Irons and Russell Building, Chestnut Street, Providence, also comes from their yards. The total quantity of the various stones is about 1,100 cubic feet.

A few pieces of brownstone were being dressed, but the demand for that article has greatly diminished. It is gritty and very hard on the planer knives, limestone being much more desirable for working. Still the old brownstone holds along for special jobs, lending itself to color schemes very nicely. Its continued use is helped on by its accessibility, coming from Connecticut, and by the further fact that it is about 25 per cent. cheaper than other stones.

The yard was filled with Indiana limestone, which is used very largely. A very interesting feature was a quantity of Caen stone, imported in the rough from France, about 230 square feet of it, which is to be used in the Library in Utica, N. Y., for two mantels, each 9 ft. high by nearly 11 ft. broad, which were designed by Carrere & Hastings, of New York. As the Caen stone is easily susceptible to rough usage and staining, there will be a base course of Istrian marble let in, which being very much harder and denser will receive and repel kicks and dents, and the stains of the cleaning cloths. In color it is almost a perfect match for the Caen. This Caen product is delightfully easy to work as it can be dressed, sawed, cut and planed with carpenters' tools. In fact it is so soft that pieces can be chipped from the edge with the thumb nail. The blocks on the ground there were sawed up with an ordinary wood hand-saw. They were then rubbed down with a drag and smoothed with sand paper, but care is taken not to bring it to too great a smoothness as it then looks chalky. In the course of time it hardens with exposure to a practical stage of density. But as soft and easily worked as it is, it is much more desirable to work in harder material. A heavyhanded man, or even a good man the least bit careless, to a degree, which would not really affect the other varieties of stone, will break and utterly spoil this; and for mantels worth \$1,500.00, of stone worth \$2.00 per cubic foot on the cars, the foreman's solicitude to see the job safely out of his hands can easily be imagined. Business generally was not as good as it should be, although the firm was now, and for some time back, had been very busy with these and other special contracts.

At the office of the Oneco Granite Co., 49 Westminster Street, Mr. J. F. Cole said the stone trade had been fairly good although the season had

opened late. Just at present they were busy getting out 500,000 granite paving blocks for the Rhode Island Electric Co., to be used in paving between the tracks, and 200,000 more for the city streets of Providence. Outside of this there was a fair amount of work on hand for general construction purposes.

Dull in Monumental Line.

At Kimball & Combe's 3 Weybosset Street, Mr. Kimball said the monumental work had not been very good this year. They had plenty of work on hand, enough to carry them well along into the fall, but it was mainly of a pushed-over nature, work coming over from last fall and early winter, which the very cold weather had caused to be held back. But not much new work, prospected this spring, had yet come before the trade. Mr. Kimball is the office manager and active outdoor representative of the firm and Mr. Combe is the designer, and are both very courteous and pleasant gentlemen.

Granolithic Pavement.

D. F. Grady & Co., 75 Westminster Street, make a specialty of granolithic pavements. They have put down a great deal of their work in Providence. They have a large plant in Fulton, N. Y., which produces pavements for Utica, Oswego and all towns in that section. Mr. Grady says that in those localities they have made many and severe tests of the granolithic, with the result that it is superseding asphalt and other forms of pavements.

MEMPHIS AND THE SOUTHWEST.

MEMPHIS, TENN., July 25.—The trade in cement, slate and rock products lines continues quite good at Memphis in the mid-summer time. There are other new city contracts coming, so City Engineer Omberg says. The real estate men of Greater Memphis are energetic enough to plan out and build model sub-division and this makes a healthy enough demand to suit operators in any city. Many buildings are going up in Memphis, one or two of the sky scraper order are in contemplation. The greater number, of course, are frame residences, but they are of good designs, and with their foundations, and accessories require considerable lime, slate, cement, granite and kindred articles.

There is said to be a considerable amount of asphalt in the immediate Memphis territory. According to an authority here a few days ago the visible supply of Kentucky Rock asphalt exists in endless quantities just north of Memphis in Kentucky. A kind of asphalt very similar to that in Kentucky is found at Tuscaloosa, Ala., on the Southern railway, going South from Memphis a short distance. Some of this Alabama stone was recently offered a crusher in Memphis and was easily reduced to the required consistency.

John A. Denie & Sons are shipping out considerable lime from their Front Street place to builders in West Tennessee and elsewhere in the Memphis district.

J. T. Forsythe is having a good summer trade on lime and building supplies.

The Memphis Hydraulic Stone Co. as the architects and contractors grow more familiar with their products, are shipping the artificial stone to many points far removed from Memphis, and it is finding a generous trade here with the builders.

The Corliss Co., of Memphis, have just sunk a well 580 feet deep at Forrest City, Ark., for the Coctaw Brick and Tile Works, who have just completed a new plant there.

The Neighborhood of Memphis.

The Chatawa Gravel Co., of Chatawa, Miss., has been organized with a capital stock of \$100,000.00 by C. J. Bartlett and others.

Messrs. J. L. Donahoo and Adolph Trimler, of Indiana, who recently purchased the Jonesboro (Ark.) Bending Works, and who entered the manufacture of hardwood handles will also operate in tile factory lines. This department will be under the supervision of Mr. Trimler. There is fine clay about Jonesboro and as drainage is in its infancy thereabouts, the gentlemen expect a good market at home.

The Arkansas Brick and Manufacturing Co., of Little Rock, have just sold another lot of brick

to the State Capitol Commission for \$4,787.84 to be used in the construction of the new capitol.

The Arkansas Asphalt Co. is negotiating with the city authorities of Little Rock with reference to a contract to pave several streets. If the deal is made the company will commence soon to strip the large deposits two miles south of Pike City, Ark., which they own.

In Little Rock, the Green River Asphalt Co., has a large force of men engaged in contracts for repairing the city streets. They have a ten year repair contract. Mr. Kingsley, superintendent of public works for the city, looks after the same.

The Alba Lime Co., of Farmington and Fayetteville, Ark., has been incorporated with a capital stock of \$25,000.00, of which \$9,000.00 has been subscribed. A. W. Shreve is president; John Rehm, vice president and C. W. Appleby, secretary and treasurer.

The modern four table slate factory of the Ozark Slate Co., at Damron, Ark., has at last commenced operations. Mr. Root, the manager of the company states that they have manufactured their first slate at the plant this week and that he has a splendid bed of fine slate ready for continuous work.

Mr. LaDow, manager of the brick and tile plant being constructed at Bentonville, Ark., and mentioned in last month's issue of ROCK PRODUCTS, states that they will be ready for work by August 1. All the members of the company are residents of Bentonville and the enterprise is a great thing for that town. It will turn loose three or four thousand dollars a month in that community.

THE TERRITORIES.

The Southwestern Cement Co., of Ferguson, Oklahoma, has been organized with a capital stock of \$200,000.00. The incorporators are: Geo. Newer, J. B. Scott, E. A. Cox and J. E. Blandon, all of Ferguson.

H. C. Chapman, of Okeene, O. T., is authority for the statement that a cement mill in Okeene to be built by Eastern capitalists is in close prospect. There are a good many gyp beds in the vicinity of this town.

In the Durant, I. T., section a rich and heavy deposit of asphalt and lead has been discovered on the Jesse Gardner plantation within eighteen inches of the surface and preparations are being made for further examination and development of the find.

At Muskogee, I. T., the plans and specifications for the necessary buildings, machinery, etc., for the Muskogee Hydraulic Stone Co., have been received. The directors have just held a meeting at Dr. A. E. Bonnell's place with reference to placing same and it is expected to have something done in thirty days.

The Oklahoma Building Stone Manufactury is furnishing the stone at Perry, O. T., for a new structure being built by the First National Bank.

FROM OLD TEXAS.

Col. Mike Butler, a capitalist of Austin, Texas, has gone to St. Louis and other points to purchase machinery to be used in the enlargement of a pottery and brick plant near Elgin, Texas. He is to invest \$40,000.00 and the plant will be one of the largest in the South. Col. Butler says that his clay is not surpassed by that of any of the most successful plants in the country. He will be on his trip for several weeks.

The Waco Pressed Brick Co., of Waco, Texas, has filed an amendment to its charter increasing its capital stock from \$5,000.00 to \$10,000.00.

Gen. Sam T. Carnes, of Memphis, and other associates in the Southwest have made arrangements to purchase the Central Asphalt and Refining Co.'s plant at Port Neches when it is sold under the hammer on August 2. They will invest an extra million in refitting the plant. This is the same plant in which Chas. A. Towne and a score of politicians were interested.

IN MISSOURI.

The Phoenix Brick and Construction Co. has been awarded a large paving contract in St. Joseph, Mo., in a competitive bidding contest.

The following gentlemen of Vandalia, Mo., have organized a new company for the purpose of manufacturing building stone: W. L. Wright, James Henegar, E. Henegar, S. D. Ely, Moore and Clemons, F. P. Dye, F. B. DeTienne and others. The organization will be a stock company.

At Joplin, Mo., the Joplin White Lime and Cement Co., is going out in the thriving Joplin district and capturing some big contracts these days.

A. P. Hoyt, is the main spring in this business. He started the Joplin company about a year ago, coming to Missouri from Wisconsin, where he was for about twenty years a member of the firm of Hoyt and Chickering. His Joplin firm are dealers in Iola Portland cement, Grove lime, Fort Scott and Louisville cement, fire brick, white sand, vitrified paving brick, etc., and are pushing them all.

ACTIVITY IN KANSAS.

Near Chanute, Kans., the Great Western Lime plant owned by Chanute parties, which began business three months ago is now turning out two carloads of lime per day, in spite of having been deterred by rains, which have put them behind on orders.

Chas. W. Penninen, is a city councilman at Fort Scott, Kans., but aside from politics he has time for a few other things. He is a director in the Ft. Scott Brick Works. Just now he has been to the neighboring town of Sedalia, Kans., where he is not a councilman and comes back with a \$15,000.00 contract for paving brick stored away in his capacious vest pocket.

The Concordia Hydraulic Stone and Brick Co., Concordia, Kans., has perfected its organization with a capital of \$7,000.00. The following officers were chosen: President and general manager, C. R. Scott; vice president, B. M. Wiard; treasurer, C. A. Betournay; secretary, T. J. McCue. They will at once erect a factory for the manufacture of the product, which will consist of artificial stone made of cement and sand, for all manner of buildings, curbing and side walks. The building blocks will be hollow and made impervious to dampness, heat or cold.

At Salina, Kan., the Salina Vitrified Brick Co., will start up their plant again right away and will manufacture a new kind of hollow brick, 4x8 by 12 inches in size for building one story houses, granaries, etc.

The Western Roofing and Tile Co., at Coffeyville, Kan., is one of the most enterprising concerns in the Southwest, that a newspaper man or anybody else can find. They own right at their plant ten acres of fine shale. The head members of the firm are practical workmen themselves. E. J. Hess, manager of the factory, has invented an automatic clay cutter that they use in their moulding rooms. They get out an Interlocking French tile. The company is preparing to make two new patterns of tile, one a Gothic and the latter a Spanish tile. Manager Hess designed the former, which without flattery to him, it is safe to say is the handsomer of the two. Jos. Green is another specialist connected with the works. Mr. Green was for many months engaged on the frieze and bas-relief works at the St. Louis World's Fair and he has made a great many of his own moulds for use at the factory. The plant has only been running three months, but has done such a nice business that it will be enlarged in the very near future.

J. R. Patterson, of Union City, Mich., vice president and general manager of the Chanute (Kan.) Cement Co., that has had options on some tracts about Chanute, states that work on the construction of their plant will likely begin within four or five months.

Another concern of Chanute, the Kansas Vitrified Brick Co., has just held its annual stockholders' meeting with H. E. Yockey. The same directors were re-elected. Their plant is under lease to the Kansas City Hydraulic Pressed Brick Co., but is doing satisfactorily in a business way with dividends that equal 20 per cent. per annum on the entire capitalization.

Hon. N. L. Bowman and others of the Garnett, Kan., company that have had examinations made by the Chicago Brick Machinery Co.'s experts of the shale found about Garnett are much pleased with the results of the tests. After sinking some gas wells, if these are successful, a brick plant with a capacity of 60,000 brick per day will be erected.

J. T. Grimes, a marble dealer at Hiawatha, Kan., has just unloaded a car of 50,000 pounds of granite for his local business, including nine fine monument jobs or \$2,850.00 worth on the car.

The Kansas Portland Cement Co., in doubling its plant in Allen County by about 50 per cent. having now in course of construction four additional rotary kilns, griffin mills and machinery. In spite of the low price of cement the firm have their business on such a basis as to make it profitable for stockholders at even close prices.

W. H. L. McCourtie, one of the directors of the Western States Portland Cement Co., from Kansas

ROCK PRODUCTS.

City, L. J. Byers, of Coldwater, Mich., and other gentlemen identified with the interest, have been spending some time down at Independence, Kan., pushing forward the work of the construction of the Missouri Pacific switch to their plant. Mr. McCourtie said: "Just as soon as the trackage is ready for use we will have an immense force of men at work on the grounds. We now have enroute here 300 men and 30 teams."

NASHVILLE AND THE SOUTHEAST.

NASHVILLE, TENN., July 25—The firms in Nashville all have plenty of orders to keep them occupied this summer, and the larger and better known firms seem satisfied with the business outlook. There has been considerable construction work right here in Nashville that has called for tiling, roofing, slate, lime, cement, fire brick, etc., and several of the prominent Nashville houses have been favored with handsome contracts from out of town. Prices while tending lower than last season seem now on a firm basis.

Among the firms here that have captured contracts at other points in the South is the Nashville Roofing and Paving Co. The list of work captured by this firm will compare favorably with any of like size in the United States. Since January they have secured street paving contracts aggregating \$500,000.00, scattered over the States of Tennessee, Louisiana, Alabama and Georgia. Bitulithic, granite and brick have been used. Besides doing extensive work for the city of Nashville, a good part of the paving work in Birmingham and Shreveport has been done by this firm and also jobs in New Orleans, Spartansburg, S. C.; Augusta, Ga.; Evansville, Ind.; Atlanta, Ga., and Macon, Ga. They have taken good roofing contracts at the same time and the Nashville Chemical Works under the same management has shipped its products from Nashville to the Gulf. Geo. W. Ingram is president of the company and the business built up by the firm is in no small degree due to his foresight and business management.

Foster & Herbert Cut Stone Co., of Nashville, are planning extensive improvements in their plant and already have material changes toward bettering their place under way. A few days ago they spent \$11,000.00 for property on Argyle Avenue, formerly the Barden & Jordan stone yards. It is here they will perhaps concentrate all their interests. Improved machinery and stone handling appliances will be installed. This yard will be running in sixty days after an investment of some \$30,000.00 is made on it. The present yard near the Phillips & Buttorff foundry will then probably be discontinued. Jos. E. Peter, for twenty years a stone yard man in Louisville, Ky., will look after the installation of the new machinery and be yard manager. The company will turn out cut stone, granite and marble of the best grade.

The Harley Pottery Co., of Nashville, will increase its capital stock from \$10,000.00 to \$50,000.00. The plant has been a private firm owned by H. J. Harley, W. H. Harley and H. W. Buttorff. A new site will likely be selected for the improved plant. The old plant turned out about 25,000 pieces of crockery per week, but under the new arrangement this will be increased forty or fifty times. Nashville affords a good field for a pottery, there being none nearer than 200 miles, though the raw material is fairly well accessible. The clay comes to this one from West Tennessee.

George Scott, a clay expert from Cincinnati, Ohio, has been in Nashville making some expert examinations of clays for the Harley Pottery Co., and it is possible that he will remain with the company permanently. Mr. Scott thinks that the West Tennessee clay will be very fine for enameled brick.

The committee in charge of a monument to be erected in memory of Col. Jere Baxter, the first president and the builder of the Tennessee Central railroad, are pushing their work now and a handsome piece of statuary work is assured. Theo. Cooley, Gen. G. P. Thurston, Geo. A. Clark, W. G. Thuss and John A. Pitts, the committee on designs, have been authorized to secure designs and estimates of costs for the monument which will be of heroic size.

W. M. Anderson, manager of James B. Clow & Sons, of Havana, Cuba, was in Nashville a few days ago. Mr. Anderson is in the United States on a visit to relatives. He went to Cuba in 1900 and was for a number of years located at San

tiago, but later took charge of the business of J. B. Clow & Sons at Havana. The headquarters of the firm are located in Chicago, but it has a large branch house in Havana controlling a good part of the business in water, sewer and gas outfit, deals in cement and other contracting materials. Mr. Anderson said that no one except those on the ground could realize the vast business relations existing between Cuba and the other countries. He said his firm carried a \$150,000.00 stock and did a splendid business not only in Cuba, but with islands of the West Indies group and South American countries.

At Evansville, Ind., the Crown pottery is erecting a half dozen new kilns and replacing all of its wooden buildings with substantial brick structures. The Peoria plant has been removed to Evansville. A. M. Well and other gentlemen are running the pottery.

A. A. Scott, W. J. Oliver, Alex. McMillan and others will organize a company at Knoxville, Tenn., to manufacture brick and will erect a plant. The same will have a capacity of 100,000 brick per day and the company will have a capital stock of about \$50,000.00 when organized.

Snyder & Autry are making a good many improvements on their Eclipse Marble Works at Humboldt, Tenn. The rapid enlargement of their business has made additional space necessary.

CUBAN CORRESPONDENCE.

HAVANA, CUBA, July 25.—Two American firms who are in the quarry business here are doing well. These are Messrs. Charles Thrall & Co., of the Jesus del Monte quarries and Messrs. J. H. Ellis & Co., of Guanabacoa. The latter, however, is the more extensive of the two and caters to the heavy order trade. It has a crusher capable of turning out 150 loads a day. Mr. Ellis has a number of large government contracts, and the crusher is running night and day to keep up with orders. He has employed between 60 and 70 men besides a large number of mules for the hauling away of the stone. Mr. Thrall's representative manager, Mr. Charles McDonald, says he has also a lot of orders ahead for building stone and concrete work. There is great activity in building lines now, and as most of the houses here are built of stone and cement, with little or no frame houses, within the city limits, there is constantly a good demand for small stone for building purposes. Then in the placing of the large machinery in the sugar mills, they are always set up on a concrete foundation.

Mr. McDonald said to a ROCK PRODUCTS' representative that this crusher is a small one and its capacity is about 60 loads a day. They get all the way from \$1.00 to \$3.00 a load for the stone, according to the size to which it is crushed, the finer screenings bringing between \$4.00 and \$5.00 a load. Prices, however, say both the gentlemen were better during the American occupancy, and have gone down all around about \$2.00 a load. The stone is a fine quality of black granite and makes the best kind of macadam for roads, and it exists in unlimited quantities.

CHICAGO.

CHICAGO, ILL., July 29.—The mid-summer slack up in general business is shared in to some extent by the stone, cement, lime and other branches of the building material trades. True the building season is on and under full headway, but the wants of the material trades have mostly been anticipated and the rush of orders, which were noticeable earlier in the season show less activity just at this time. Heads of many firms have gone away for a brief outing and others are preparing for a short vacation during the month of August. The many excellent articles on the great fair, at St. Louis, which have appeared in ROCK PRODUCTS, handsomely illustrated, have impressed a number of material men here, who say that the proper advertising of the fair has been by far too meager and that the best articles they have read are the series that have been published by ROCK PRODUCTS.

The Strike Situation.

Business men just now are almost paralyzed by the magnitude of the great strike at the Stock Yards in this city is assuming, and fear that unless some steps are taken to bring it to a close

some serious disorder will befall the general business interests here. Of course, a strike of the magnitude of this one will have a widespread influence, and fear is felt in some quarters that the effect on many branches of business not allied with the stock yard interests may prove disastrous. Labor on all sides is watching this great struggle and the masses are becoming excited. Chicago is at the present writing going through a struggle greater than any that has previously afflicted her since the great railroad strike a few years ago, and it is quite natural that all business men are thinking deeply. Labor is getting suspicious and uneasy here, and business men hope that something will be done to bring the strike to an end.

Contentment of the Brick Interests.

The Brick interest is apparently satisfied with the present condition of that trade. The yards are running, generally full handed, and the Illinois Brick company report prices unchanged in any respect since last month. Only one thing has occurred of late to cause the brickmen some discomfort, and that is the letting of the contract to build the big drainage sewer in this city, which is to cost over \$800,000.00, of concrete and cement instead of brick. Mr. George Gubbins, president of the Bricklayers' Union and his following were terribly cut up when the city determined they would not give in to the bricklayers, and pay them nine dollars per day for doing this work. The fact was made plain to the city that a better sewer can be built with concrete at a saving of \$60,000.00 to the property owners than with brick. Of course the brickmakers and the bricklayers don't like the arrangement, but they were powerless to avert the change. It is asserted that there is a combination of sewer builders and bricklayers which has made the building of sewers extremely burdensome to property owners. The fact that a decision has been given in favor of cement sewers as better than a brick one, although it cost much less, is a blow that the combine did not expect.

The Building Interests.

The building industry, which is of so much importance to the workingmen of the large cities is, generally speaking, in excellent shape. This is eminently true of Chicago, and there does not at this time appear to be any labor troubles in sight at this time. The builder here has the right to buy his material in the best and cheapest market, and this right has not yet been denied him in this city. The bricklayers, the stone and granite men, the cement and lime men all seem to be willing to accept the present situation and seem to be working to prevent any clash in any direction.

This city is to have a new and powerful stone plant at the Bridewell, which will cost the sum of \$20,000.00 and will be furnished by the Allis-Chalmers Co. The stone crushed will be used entirely by the city.

A very important transaction on a large scale is announced by the Doles & Shepard Co. This company, owning five plants for the manufacture of crushed stone, granite and lime has just purchased the works of the Gary Stone Co. for \$74,000.00. The property is at Gary, on the Santa Fe railway, and south of Riverside, and embraces a tract of land comprising 100 acres with a plant having a daily capacity of 1,000 yards of crushed stone. The company plans to erect at that place, in addition to the present equipment, what it is said, will be the largest stone crushing plant in the country, with a daily capacity of 3,000 yards. The work has commenced and the cost is placed at \$75,000.00. The company has always been too conservative to report much of what it is doing, but this transaction they could not keep quiet. In the stone crushing business here this firm is a very important factor, and has large contracts with the city.

Items of Interest.

The Allis-Chalmers Co., of this city and elsewhere has just entered the field of electricity as a rival to the General Electric and Westinghouse Companies, and has obtained the biggest contract ever made to furnish power. The contract calls for the equipment and furnishing of 100,000 horse power by a turbine plant for the Brooklyn electric roads, and represents an outlay of more than \$2,000,000.00.

Mr. Tims, of the well-known firm of government contractors, Hugo & Tims, Duluth, Minn., was in the city a few days ago looking up some machinery for their Lake Shore work at Harbor Beach, Mich. He purchased among other things

two Smith Concrete Mixers, an orange peel bucket, and some other tools of the popular firm—the Contractors Supply and Equipment Co. The mixer is to be used for mixing the concrete for the retaining walls at Sand Beach, which will take the place of the old boulder back-water. They are crushing the boulders to use in the concrete, so that they still perform service in another and more modern form in the dock.

Mr. Edward Hely, of Monon, Ind., and Cape Girardeau, Mo., was in the city the other day on a visit of business and pleasure. Mr. Hely reports business in crushed ballast very good, and has also been furnishing the government with a considerable amount of riprap for river work in the neighborhood of Memphis, Tenn.

Mr. Ira France and C. L. Ireland, were in the city last week looking over some railroad ballast work upon which they were contemplating bidding. These gentlemen already have some of the largest crushing plants in Indiana and Ohio, but they are always willing to take on some additional work if there is any money in it. Mr. Ireland came hungry, but went home filled. He is always the same irrepressible Ireland.

Mr. Sunderland, of Sunderland Bros., and their superintendent, Mr. Spooner, were in town last week buying a crushing plant from Allis-Chalmers Co., for a new company called the National Stone Co., at Omaha. This new company is composed of the Messrs. Sunderland Bros. and a number of other local dealers in cement, lime and broken stone, for their general trade. They are putting in a nice little plant with a capacity of about 400 cubic yards per day at Louisville, Neb., and with the able management that the company will have they will surely make it a profitable venture.

Mr. Spooner was formerly in the employ of the St. Clair Stone Co., and is one of the best crushed stone men in the West.

Hugh Murphy, the well-known Omaha, Neb., contractor was in the city last week looking up material for an asphalt paving contract he has but recently taken at Lincoln, Neb. Mr. Murphy has for some time been out of the asphalt paving line, devoting himself to general contracting, outside of asphalt. However, he formerly put a large amount of asphalt paving in Lincoln, and his work in that city was so satisfactory that he was induced to bid and was awarded the contract for quite a large piece of work.

Among other things he was looking up pulverized lime stone, a considerable quantity of which is used in making asphalt. This is an industry connected with the stone business which it seems is not thoroughly worked up as it should be. The production of this makes a fine by-product to a crushed stone plant and the material sells at a good price per ton, but there are very few of the crushed stone producers in the West who make this stone dust for the market. Mr. Murphy was obliged to purchase his material in Indiana for shipment to Lincoln, Neb. We should think there would be a good opening for a business of this kind in connection with the crushed stone business in the West.

FROM THE TWIN CITIES.

MINNEAPOLIS, MINN., July 30.—The general situation in the lime and cement trades of the Twin Cities is very much the same as last month. Brick business shows some changes. The scarcity of common brick last year and the stiff prices which prevailed in consequence, urged manufacturers to push their work as hard as possible in the early spring. The result has been that there was an ample stock of common brick from the opening of the season. And as is usually the case following a season of scarcity, the precautions taken by all manufacturers resulted in a surplus which was not helped by the very light consumption of common brick, as there have been but few large brick buildings in either St. Paul or Minneapolis. Brick men find the market well supplied and prices are low. Good common brick were scarce and wanted at \$7.50 and even \$8.00 per thousand last fall. Now they can be bought on the open market at \$6.50 to \$7.00 in any quantity. The sewer departments of the Twin cities are using their full amount contracted for at this time of year. The sewer department of the city engineers' offices are now constructing some small sewers of concrete with good results.

Nearly all the paving in St. Paul and Minneapolis, as well as other cities of the Northwest, is

laid upon a base of concrete. The Mankato (Minn.) Cement Works have had a large sale of their cement products this year for paving and other work. Austin, Minn., cement has also had a good sale. The Yankton, (S. D.) cement factory has made extensive improvements to the plant in the spring and summer and has been running full with good orders ahead.

The Hilger-Carney Co. has opened a warehouse on Nicollet Island, Minneapolis, where they will handle cements, hard wall plaster, lime, fire, pressed and common brick, and terra cotta and other building material. P. H. Carney is manager.

Mr. Stanley, of Hope, N. D., proposes a cement tile sidewalk plant at Casselton, N. D.

The Grand Rapids Foundry Co., of West Grand Rapids, Wis., will erect a new building at their works. They have bought a machine to manufacture their own cement blocks for the building.

The Dower Lumber Co. will make concrete block at Wadena, Minn., soon, having purchased a machine for the purpose.

The foundation for the immense hotel and depot for the Canadian Pacific Railway at Winnipeg, has concrete work going in rapidly. A concrete mixer is being used, which makes half a yard every three minutes. It requires thirty men.

The Inter-Ocean Portland Cement Co. has been formed to develop a rock deposit near Fort Assiniboine, Mont. Tests show the rock to be of good proportions for the production of high grade cement.

The Automatic Stone Machine Co., of Waterloo, Ia., has been incorporated with a capital stock of \$100,000.00, to manufacture a machine invented by Wm. Raab. It operates with compressed air, and can cast and shape as desired in ten seconds. A hand power machine is also to be manufactured.

A concrete block factory may be established in Glencoe, Minn., by parties from Waterloo, Ia.

The Seymour Cement Stone Co. has been formed at Seymour, Ia., by T. Gaddis and H. Lord buying a two-thirds interest in the cement stone business of E. C. Schneiby.

The Washington Brick and Tile Co., of Washington, Ia., has been formed recently with a capital stock of \$30,000.

A sand and cement brick proposition has been formed at Keokuk, Ia., under the title of the Western Brick Co. R. H. Bowen, the general manager, is the owner of a chemical process for coloring the brick. The plant starts with 20,000 daily capacity.

J. E. Kalsner, of Winona, Minn., Alfred Patterson, and H. H. Irvine have formed the St. Paul Brick Co., of St. Paul, to manufacture white pressed brick from the white sand and lime.

H. M. Borgran, of Washburn, Wis., is investigating the quality of clays there for making flower pots, mouldings, etc.

The New Ulm Stone Co., of New Ulm, Minn., has ordered a stone crusher and will install it within sixty days. Their rock is a red stone and is said to be the only quarry in the state which produces this stone.

Clays have been found near Dawson, Minn., which are said to be of quality for the production of good brick.

Mr. Rick has fitted up a brick plant at Jordan, Minn.

M. Gavin, of near Yankton, S. D., has engaged in the manufacture of brick on his farm.

C. G. Johnson has ordered machinery to put in a brick plant at Parkers' Prairie, Minn.

A new fireproof dryer is being erected for the Boone Brick, Tile & Paving Co., Boone, Ia. It is to be ready about September 1.

Lang & Becker succeed Mr. Lang in the brickyard at Torah, Minn.

Washington, Iowa has placed a contract for 20,000 square yards of paving brick with the Oskaloosa Paving Brick Co., of Oskaloosa, Ia.

Herman Antonelli, of Hibbing, Minn., is arranging to start a brick plant there. He has interested business men of that city.

Gethmann Bros., Gladbrook, Ia., are conducting extensive tests of the clays at Austin, Minn., with a view to investing there in a plant if they prove successful.

James Maine & Sons, of Des Moines, have added a new power house and a large system of drying sheds with steam heating.

Charles Schmidt, Jr., has established a cement block factory at Avoca, Ia.

Wimmer & Williams, of Perry, Ia., have engaged in the production of cement blocks, having purchased a machine and erected a building of the blocks as a specimen.

The Manawa Portland Cement Co., of Manawa, Wis., has recently been formed, the capital stock being \$50,000.

The Hutchinson Cement & Walk Co., of Hutchinson, Minn., has opened a branch establishment in Glencoe, Minn., about fifteen miles distant.

The freight rate on cement from Chicago to Missouri river points was recently reduced two and a half cents per hundred, to twelve cents.

The black granite deposit near Sioux Falls, S. D., is increasing in interest. The quality is said to grow better as the developing proceeds.

A cement block company has been formed at Wymore, Neb., with \$10,000 capital.

James McMullen will erect a building in southeast Minneapolis of buff pressed brick and Portage Entry sandstone trimmings. Cost \$12,000.

M. D. Wilcox has a residence under construction on Calhoun boulevard, Minneapolis, of hollow tile blocks and cement work.

The Minneapolis, St. Paul & Sault Ste Marie Railway Co. will erect a six-story general office building in Minneapolis, 80x120 in size, of pressed brick, cut stone and terra cotta.

L. R. Gorham will erect a two-story brick store at 7th and Hennepin, Minneapolis. Cost \$10,000.

Harold Johnson, of Minneapolis, has recently taken contracts for fireproofing and hollow tile work for the St. Peter, Minn., insane hospital; the woman's cottage, at Hastings, Minn., asylum. The National Fireproofing Co., of Chicago, will do all the setting.

Official Bulletin on Rock Products.

A publication that will be of immediate and practical interest to the mining world and to producers of all sorts of rock and clay materials is Bulletin No. 225 of about 400 pages, which the United States Geological Survey expects to have ready for distribution by May 1. It is entitled, "Contributions to Economic Geology, 1903," and is the second publication of its kind by the survey. It has been prepared under the supervision of Messrs. C. W. Hayes and S. F. Emmons. There are also articles from about thirty of the surveys' best known geologists. The whole mineral field is covered. There will be four papers on oil and gas fields, namely: Alaska oil, by Mr. G. C. Martin; the oil fields of Boulder, Colorado, by Mr. N. M. Fenneman; the Hymer gas pool of Clinton County, Pennsylvania, by Mr. M. L. Fuller; and oil and gas in Green County, Pennsylvania, by Mr. R. W. Stone.

Stone is represented by Mr. E. C. Eckel's paper on slate in Utah and California, Mr. G. W. Rose's article on limestone in Pennsylvania and West Virginia, and Mr. T. N. Dale's contribution on the states of Arkansas.

The clays of Western Pennsylvania are discussed by Mr. L. H. Woolsey.

Cement in Virginia is discussed by Mr. Charles Catlett, cement in Pennsylvania by Mr. E. C. Eckel, and cement in Alaska by E. A. Smith.

Sulphur receives the attention of three contributors: Mr. G. I. Adams describes the Rabbit Hole Sulphur mine in Nevada, Mr. J. E. Spurr writes about sulphur and alum in Nevada, and Mr. G. B. Richardson has an article on sulphur, salt and petroleum in Texas.

Miscellaneous features of the bulletin are Mr. J. M. Boutwell's article on gypsum in Utah and California, Mr. H. F. Bain's description of the fluor spar of Southern Illinois, Mr. J. E. Kemp's discussion of the graphite deposits of New York, and Mr. G. W. Stone's article on the barite of Pennsylvania.

The bulletin will be published for gratuitous distribution.

Unbreakable Table Ware.

U. S. Consul McNally, writing from Liege, Belgium, says:

"The Company du Val-St.-Lambert, of Liege, is manufacturing a hardened crystal dish, which, in appearance, closely resembles fine translucent china of uniform shape and manufacture. The resisting power of this ware is due to a special hardening process and to the quality and nature of the crystal used. It not only successfully resists the usual wear and tear, but is almost proof against breakage.

"The resistance to shocks and sudden changes of temperature of this product is remarkable indeed. A hardened crystal dish can be substituted for a hammer in driving nails into wood, while the same ware can be put into boiling water at a high degree, then plunged into ice water repeatedly, without the least noticeable damage to the dish or plate."

Granite.

BARRE, VERMONT.

BARRE, VT., July 30.—The most important thing to record in the stone working trade of Vermont this month is the strike of marble workers in Rutland and Proctor. The demands of the union contain ten clauses and call for, amongst other things, a nine hour day, the recognition of the union in every respect, including the union scale of wages and the abolition of piece work. The demand was made to take effect July 1st. The employers, however, refused to recognize the demands and after considerable agitation and the presence of President Fitzgerald and the other members of the National Union Executive Committee, about 300 men employed by the smaller firms of Rutland county, struck on July 12th. Practically every plant except that of the Vermont Marble Company was closed and at the present writing there is no change in the situation, the Vermont Marble Co., at whom the blow is said to have been principally aimed, "standing pat."

It may seem strange to those of our readers who dwell in southern states that it should ever be necessary in a state so near the north pole as Vermont to close up a manufacturing business on account of the intense heat, yet such was the case in Barre on July 19th when, with the thermometer registering 95 degrees in the shade nearly every granite quarry and cutting plant entirely suspended operations until the next cool wave came.

Montpelier Items.

The annual meeting of the stockholders of the Wetmore & Morse Granite Company was held in Montpelier, July 19th, when the following directors were elected: Albert Johonnott, W. E. Adams, Fred E. Smith, F. M. Corry and J. M. Boutwell, the latter clerk. The annual statement was read and ordered printed for distribution to the shareholders. After this meeting the directors met and organized as follows: Albert Johonnott, president; W. E. Adams, vice-president; and J. M. Boutwell, secretary and treasurer.

The Montpelier granite firm of Robar, McCann & Co. has dissolved partnership and Mr. Robar retires from the business which will be conducted by McCann & Co. in the same place.

Northfield Notes.

Cannon & Slack, of Northfield, have just completed an extensive addition to their granite cutting plant. By this addition they will be able to



PRIZE LOT—THE QUINCY COMMITTEE.

Right back row: Wm. Spargo, Harry Nicoll, Pres. Jas. N. Elcott, T. J. Dunphy, Thos. Mannex. Front Row: Alex Faulkner, John F. Miller.

increase their capacity nearly double. They have taken on several new cutters within the past few days.

John A. Cross, of the granite firm of Cross Bros., has moved his family to New York City and will look after the firm's business at that end while his brother George looks after their large cutting plant at Northfield.

W. M. Fraser, of the Granite Construction Co., has just returned from a business trip to Lexington, Kentucky.

George Mutch, of Mutch & Colder, is stretching his legs and easing his mind over the boulevards of St. Louis. The trip is not all for pleasure, however, although the goodly amount of business that he will bring home with him will probably form a factor of his enjoyment.

George Ruxton, formerly a well known granite dealer here but now the manager of a Quincy company, has recently been given a good evidence that his Barre friends are always glad to see him when he comes here.

New Granite Operations.

The town of Barton, in the northern part of the state, is to have a granite plant. The shed is being built by John Hazel who recently opened a quarry on Barton Mountain.

Jones Bros. have recently had their quarry property surveyed, and they are soon to erect a new Blondin derrick.

Emslie & McLeod have shown that business for the summer is pretty good. When they opened

up after the Glorious Fourth they were obliged to add an additional gang of cutters.

In bankruptcy court last week, Burtop Gale, trustee of the bankrupt estate of Julia M. Kane, of the Kane Granite Co., Montpelier, was given permission to sell the personal property of the estate at private sale. An additional claim was proved at this time by the Barre Savings Bank, the amount being \$2,500. The liabilities of the company were about \$20,000, and the appraisers in their report find property of less than \$10,000 in value.

Returns to the Old Trade.

J. Frank Huntoon, formerly a well known granite manufacturer of Barre, has again entered the business in this city. He has leased the property known as Robinson's Mills for a term of years and is conducting both a cutting plant and a polishing shed.

No little excitement was caused in trade circles this month by the petition into bankruptcy brought by Charles Scott and others against Michael A. Somaini, a granite manufacturer of Williamstown. His liabilities are about \$1,000. Scott, the petitioner, owns a quarry and the debt claimed is for rough stock.

A Bad Accident.

The Hardwick & Woodbury railroad has temporarily crippled business at Hardwick. Three flat-bottom cars, heavily loaded with waste stone, started from Tracey's Crossing, two miles above Hardwick, and ran to the end of the road. The



THE BARRE-QUINCY BUNCH AT THE BARBECUE.

starting point is 300 feet above the level of the village and the cars gained a tremendous momentum. When they reached the yard in the village they took the track to the engine house and ran into the best engine used on the road. The engine and cars were badly smashed and the damage was over \$10,000.

Short Time for Big Contract.

The Woodbury Granite Company, of Hardwick, has just secured a contract for Bethel granite to be used in the construction of a public building to be erected at Providence, R. I., to be known as "The Ann Mary Memorial." The price is about \$40,000 and it must be completed by January 1st, 1905.

Ellis Running Night and Day.

The surfacing machines at the E. B. Ellis granite plant is Northfield are now running night and day, the night men beginning work at six o'clock in the evening. The work of equipping the new shed is progressing as rapidly as possible. It will be run for the time being by electric power to be furnished from the Northfield Electric lighting plant pending the completion of the power line by Messrs. Almon & Moody from the Moretown lighting station. The worst drawback at Northfield is the scarcity of cutters. The company has a place for 410 men but have been able to secure only a little over 100 at the present writing.

His Machine is Evidently appreciated.

E. Cavicchi has recently shipped four polishing machines to parties in western states.

J. A. Martinson who, when seen just prior to the publication of last month's issue, stated that the polishing business had never been so dull in the history of Barre as it was then, expressed regret a few days later that he had said any such thing, because business at that time began to pick up at a most surprising rate and John wears a broad smile now while his polishing mill is run at full capacity.

Whitcomb Bros. have set up derricks and hoisters at Bond and Whitcomb's quarry. The latter is now equipped with a new electric motor and a Sullivan air compressor, making it one of the most up-to-date quarries in Barre.

Z. Macchi has got a shed full of new work, showing that orders have been coming in there as fast as he could desire.

C. H. Jones, whose headquarters are now located in Quincy, Mass., is in Barre for a few weeks looking after the business of Townsend & Co.

Popular Monument Design.

George Walker & Sons have just sold the 150th monument from one design. A photograph of this remarkably popular design appears in these columns in another place.

For the first time in many moons the statement is frequently made by the granite men that cutters are scarce.

J. B. Reinhalter & Co. are building a fifty foot addition onto their granite plant. They have work enough on hand, thanks to Mr. Reinhalter's hustling ability, to keep the present force busy until December 1st. It has therefore become necessary to build additional shed room to accommodate the new work that is coming in all the time.

E. L. Smith & Co. have completed the extensive repairs that have been under way at this plant for several weeks and they have taken contracts for several more big vault jobs.

Business is Booming.

Alex Buchan, of McDonald & Buchan, was highly elated at the business prospects when I called on him a few days ago. The firm has recently taken a large amount of new work.

George E. Bond is sending a fine job to Kansas. The monument stands fourteen feet high. The die is polished on four sides, the dimensions of which are 4-2x2-4x5 feet. On the front is a beautiful carving half sunk and half raised, of the "Rock of Ages." This is surrounded by a paneled arch with a keystone. On each side of

this is a traced and polished urn. The monument is cut from dark Barre granite.

Fine New Plant Ready for Business.

A. Anderson & Sons have a big job just off their hands at their quarry where they have been since last spring in setting up an entirely new plant. The work was all completed on July 23rd. They have a new Blondin and a new Harron & Bury air compressor amongst the new machinery.

Stephens & Gerrard & Gall are putting in some new equipment at their quarry including a new engine and bull wheel at the derrick.

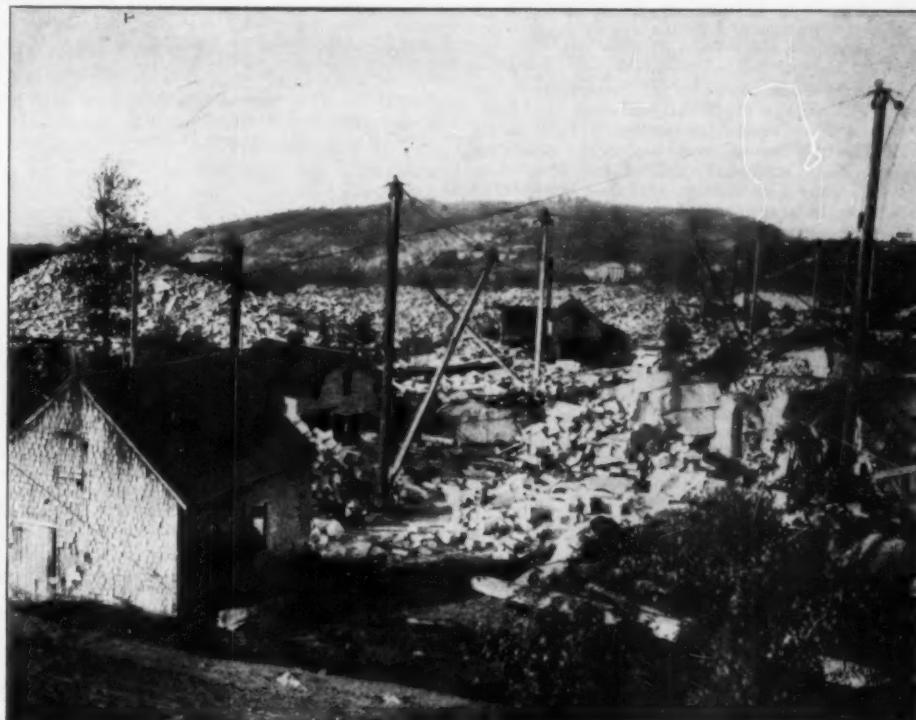
Burke Bros. are cutting an attractive job for Erie, Pa. The die is polished on three sides and on the front is a raised panel statue.

The Harrison Granite Co. is cutting for William H. Moore, the well-known president of the Diamond Match Company, a \$20,000 mausoleum for Kensico Cemetery, New York City. It will be finished in October.

The Barre business of C. E. Tayntor & Co. will be looked after by E. M. Tayntor.

Business Changes.

Rizzi Brothers have moved their business to larger quarters in a shed on Granite Street.



View of large portion of dark quarry of Jones Bros., Barre, Vt.

John J. Rogers, recently arrived in Barre from Los Angeles, California, has entered into partnership with his brother P. J. Rogers in the Rogers Granite Co. The new member is, like his brother, a practical granite man and the two will form a good team for business.

C. O'Neill, a well known retail dealer of Chicago, spent a few days in July looking over the granite business in Barre. Amongst other work placed here was a carload of monumental work from the Rogers Granite Co.

Rufus Cloud, of the firm of Cloud Bros., is in a hospital at present having cut an artery in his right forearm by a piece of steel. He will return to business in a few days.

Improvements and New Machinery.

Thomas W. Eagan, of Montpelier, has recently installed a Sullivan 9x10 air compressor at his granite plant.

The most radical improvement at the Vermont Marble Co.'s plant at Proctor that has taken place in recent years has been started in preparations now under way for the erection of a 3,600 horse-power electric plant with which the company's works will be run. The cost of installing this modern equipment will go into hundreds of thou-

sands of dollars. The contract for the electric apparatus alone will amount to nearly \$100,000. The plant will be in operation next spring. The contract has been given the General Electric Co., of Schenectady, for three 1,200 horse power generators. Another contract has been placed with I. P. Morris & Co., of Philadelphia, for three water-wheels of 1,200 horse power each to be placed at the falls in the Otter Creek in the rear of the plant in Proctor.

W. A. Lane has contracted from his neighbors, E. L. Smith & Co., a fever for improvement in his plant and has accordingly begun the work of raising all his machine plant and granite sheds to a height of about five feet. Mr. Lane has sold within the past few days three polishing machines, one to C. H. Ware & Co., another to Coast & Coast, of Newcastle, Pa., and another to a firm in Hazleton, Pa.

Splendid Sarcophagus Job.

Smith Bros. Granite Co. have just got the contract for cutting a splendid sarcophagus job for Ex-Lieutenant Governor Woodruff, of New York State. The bottom base is 9x6 feet. It has eight pilasters and is elaborately carved. A unique feature is a deeply carved arm chair at the front. The job will be set up sometime this fall.

W. W. Parry, of Parry & Jones, says business has been on the boom at their plant all summer and a lot of good orders were brought in by him when he returned a few days ago from an extended trip to Ohio, Pennsylvania, and New York State.

Hopkins & Huntington have moved from the E. L. Smith & Co. circle but have not settled upon new shed room up to the present writing.

Robins Bros. have taken unto themselves two more vault jobs since our last issue. They are for parties in the middle west. This makes seven vault jobs for Robins Bros. since January 1st. Besides this the firm has been all the time increasing its monumental business.

Strike Reported Ended.

At the latest writing news comes from Rutland that the marble workers who struck at many of the plants in the vicinity of Rutland and Proctor are all returning to work.

Frank Kenerson, recently of Hardwick, has come to Barre and is making arrangements to go into the granite business as soon as he can secure available shed room.

Robert Q. McDonnell, of the firm of McDonnell & Sons, is rustinating in the wilds of Canada for a few weeks.

New Company Incorporated.

The Barre White Granite Company has filed incorporation papers with the Secretary of State with a capital stock of \$50,000.00. The stated purpose of the corporation is to do a general quarrying and manufacturing granite business. This is the same Barre White Granite Co. as of old except that it is now incorporated. The subscribers are John E. Smith, Donald Smith, N. D. and H. A. Phelps, John Trow and George Straiton.

At a recent meeting of the Montpelier city council bids were opened for the monument to the late Joel Foster. This is a \$15,000 appropriation job. Montpelier men only were allowed to compete. Six bids were submitted. T. W. Eagan was the highest bidder at \$13,000, and T. J. Kelleher was the lowest at \$9,900. The contract was awarded to Mr. Kelleher.

W. J. Lebarron has closed out his granite cutting business here and is moving to Lorraine, Ohio, where he will go into the retail granite business.

There is now every prospect that work on the proposed railroad from Bethel to the granite quarries six miles above that village will begin before long.

Big Bank Building Job.

Probably the biggest job that has come to Barre this year has just been landed by J. B. Reinharter & Company. It is also of a nature that is very likely to make it a forerunner of much more of this class of work. The plans for this building job would delight the eye of any artist and when the building is completed it will be a magnificent structure, a most powerful advertisement for Reinharter and likewise for Barre granite in building work. The building to be erected is the Braddock National Bank at Braddock, Pa., and the whole structure will cost \$264,000. About \$40,000 of this will be in granite, including the entire front. The latter measures 65 feet and is 76 feet in height. It is supported by four hammered columns 32 feet high by 5 feet 2 inches in diameter. Fifty additional cutters will be set at work immediately and the work will be got out by January 1st. The stock will be light Barre granite. The interior of the building will be of marble, the floors being tessellated marble from Italy. The trimmings will be of Numidian marble from Africa and everything will be in the highest style of art.

J. B. Reinharter & Co. have just completed their Columbus Bank job, and the building is now in process of erection.

Just keep your eye on Reinharter. He is making things move.

The improvement of business in monumental lines demonstrates that the time apparently wasted between drinks may not be in vain.

The man without system in the stone business is in a bad fix for often he don't know where he is at.

BARRE-QUINCY

The Greatest Conference Ever Held By Granite Manufacturers.

"We've Climbed the Hills Together, John."

ANNUAL OUTING AT BARRE, VERMONT, JULY 28, 29, 30, 1904.

According to Dick Prout's definition, a barbecue is a place where they roast an elephant. The Quincy men didn't come to Barre to "see the elephant," but they had a big time, and as a result of their visit to the Green Mountain State, Barre and Quincy are more closely cemented together today than they have been before in the history of the granite business. Over one hundred of the granite manufacturers of Quincy dropped the "bull set" on the night of July 28 and leaving their cares behind them, set out for the green hills of Vermont to repay to the men of Barre the memorable visit made by the latter one year ago. They arrived in Barre on the morning of the 29th, and received the glad hand from everybody, from the sauciest street urchin up to Mayor Barclay. No visitors to this city were ever accorded the hearty welcome that the Quincy boys received on this occasion, and from the moment of their arrival until the farewells were said on Sunday afternoon (the 31st), the outing was a grand success. That it was such is due to the untiring efforts of the Executive Committee of the Barre Association who, at the beginning, seemed to be up against a stiff proposition to find in this back country facilities for giving suitable entertainment to so large a party.

R. C. Bowers was the man who hit upon the barbecue plan, and the invitations were sent to Quincy. When the acceptance came a few weeks ago the Barre committee, under the able management of President W. S. Alexander and Secretary James Campbell, set to work to perfect the arrangements. The amount of time and labor expended by them deserves a great deal of apprecia-

tion. Everything went like clock-work and even the weather clerk lent his aid to make the affair a success.

On the morning of their arrival the Quincy boys were escorted to the Manufacturers' Club and to the various places where they were to spend their sleeping hours.

Nearly everybody went to the Burns monument as the first object of interest. This is undoubtedly the most wonderful bit of carving and statuary that has ever been cut in granite and the visitors went into raptures over it. The remainder of the day was spent in visiting the various granite cutting plants and one of the features of this was the Pirie tool sharpening machine in operation at Barclay Bros.

To say that the visitors were surprised at the magnitude and the equipment of the Barre granite plants is putting it mildly, and words of praise were on every lip.

Informal Entertainment.

In the evening an informal reception was held at the club rooms and this proved to be one of the most beneficial features of the entire occasion.

President W. S. Alexander presided over a joint meeting held in the Convention Hall. In setting the ball to rolling the president said: "One year ago tonight we met at the home of those who are now our guests and talked over matters of mutual interest to all of us. We tried then to devise means for bettering our conditions. Twelve months have gone and now let us see if any advance has been made. We are glad to see you all here. We haven't the facilities to give you the entertainment that you gave us last year, but we will do the best we can. I don't know that we can do each other any good here tonight, but our interests are common and this is a good time for us to speak for each other's benefit.

"There used to be an organization called the New England Granite Manufacturers Association. The Barre Association is all that now remains of it. If there is anything that can be done to fix up something of the same kind again the Barre men want to do it. We would like to hear what you have to say about it. We had with us last year a man who was only a private manufacturer, but this year he is mayor of Barre. He believes in Barre granite, not only for monuments and buildings, but for streets and everything else. I will ask Mayor William Barclay to say something."

Mayor Barclay's Remarks.

"I have always looked on Quincy as the pioneer of the granite business. It was there that granite polishing was first introduced in America by Patterson & McKenzie. I look upon her as the mother of Barre. An obedient and dutiful son should always be kind to his mother. So we want to be kind to you. We granite men came to Barre twenty-four years ago. I worked for McDonnell & Sons in Quincy in 1880. George C. Mackie and his friend Simpson were with me then and they wanted me to go to Barre with them then, but I was homesick and went back to Scotland.

"I came to America again the next year and worked for a while at Quincy, but they worked too slow for me there. I couldn't stand it to see them



Working gigantic block at E. L. Smith & Co.'s Quarry, Barre, Vt.

take so much time to move a stone. I went to Barre, where a year before Mackie and Simpson had been the first Scotchmen to settle.

"I remember soon after I came here of asking a native young lady what she thought of Scotchmen anyway, what were her first impressions of them?"

"She said: 'I thought they were awful homely—that was before I came, you know.'

"Who would have thought twenty-four years ago that Barre would ever be what it is today. We were foreigners then, and objects of curiosity to the natives. They don't call us foreigners now, we are American citizens."

"The progress of the Barre granite industry is like the progress of the nation from the landing of the Pilgrim Fathers to the great and glorious country it is today."

"Heretofore we have done monumental business only. Now we are reaching out and looking for building work. We have all the conceivable tools to work with, the pneumatic tools and modern equipment of every kind, and among the most important I must mention the Pirie Tool Sharpening Machine, which most of you have seen working today. It is a great thing, and I hope before long to see many of you installing them. It is a great help and it cheapens the cost of production. With all these modern facilities we have good prospects in Barre. It is astonishing to see the amount of work that has come into this city during the past six weeks."

"But there is no need of our doing work so cheap. We must hang together and keep the price up."

"The Barre men enjoyed our outing last summer, and I hope this is not the last time that we shall see you here."

"As chief executive of this city, I extend you all a hearty welcome within our borders."

Mr. Nicoll of Quincy Replies.

Harry S. Nicoll is president of the Quincy Association.

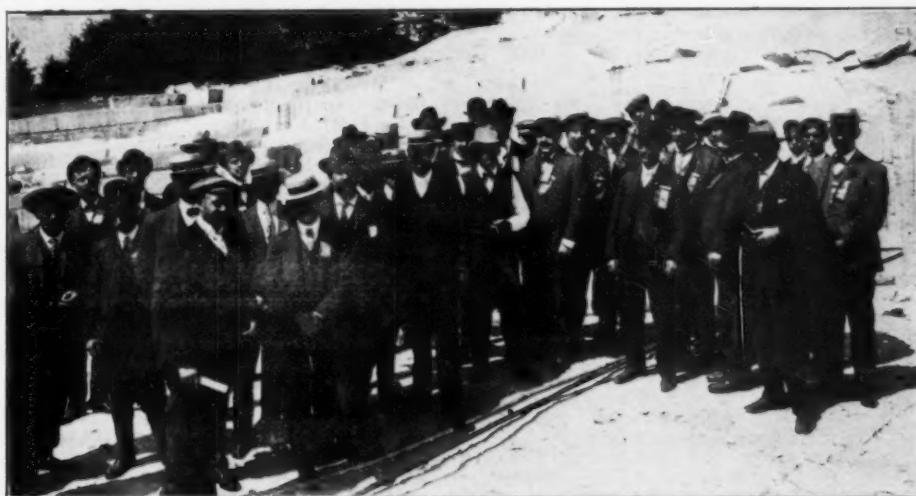
"On behalf of the Quincy Association I want to tell you that we have certainly met with a surprise today regarding Barre. We thought before we came here that we had an idea of the granite business, but the size and equipment of your plants have fairly taken our breath away. Mayor Barclay has described Quincy as the mother, but we certainly have seen the father of the granite business today."

"This interchange of meetings is a good thing. The confidence of the two bodies in each other was shaken some time ago, but I believe by these social meetings we shall get together again, and the gatherings will be a great benefit to each of us. It has always seemed heretofore impossible for us to raise our prices, but if we can find a way to do it let us do it. I admire a man who is not afraid to figure a job and place a profit price upon it. I can readily see from the class of work you are doing that Barre and Quincy are not in competition. We are brothers."

"I thank the Mayor and the President of this Association for the cordial welcome."

Good Humor Prevailing.

Fred B. Mudgett next entertained the audience with one of his incomparable dissertations and kept everybody in one continual roar of laughter over his description of the trip to Quincy last year and his argument with Dick Prout over the



A LOT OF NICE FELLOWS IN A NICE QUARRY.

name of that lobster-like little animal that Mudgett wore in his buttonhole when he "saw the sights."

John F. Miller was introduced as the man who arranged the Quincy end of this outing. He said: "The first thing I saw when I got to Barre was the mayor. I knew a good thing when I saw it, so I froze onto him and have been with him every minute since. I am glad to see that Barre has a mayor who believes in using granite chips on the streets. I wish we had one of the same kind in Quincy."

"As to these meetings, I believe in them. I believe they will bear good fruit. On going through these marvelous plants here today the thought came to me, 'are they paying?' Of course they must pay some or it would be impossible for them to exist, but with this wonderful equipment the men who own them ought to be money kings. Certainly if they make as much profit proportionately as the average \$50.00 peanut stand the men who operate them would be able to retire from business in ten years' time. Is a mere living all that we are in business for?"

"There is no other business that cannot accumulate, but you are not doing it; we in Quincy are not doing it. We are spending a life of toil just to know where the pay roll and our own poor living is coming from. The \$3.00 a day man is better off than the most of us. Is there no way under Heaven to better this condition? Are we to go on without doing something?"

"Last year this unsatisfactory condition was talked over and committee appointed. Here we are together again at the end of a year and nothing done. We are too jealous of each other, while we should work hand in hand. We are not competitors. There is a separate market for both kinds of granite, the same as there is for different patterns of cloth in suits of clothes. Cheapness in this business doesn't create anything, and the lessening of prices by either of us is the height of folly. If a small committee from each association were appointed (pay them for it) they could,

I believe come to a mutual understanding that would do us both good.

"We should go further than the question of protecting ourselves from organized labor. That is a small speck in the field of possibility that opens to us behind the right kind of joint organization."

President Alexander heartily seconded these remarks. He thought the trouble with the old New England Association was that there were too many elements in it. There were building men and monument men together, when each should have had a separate organization.

Personal Friendship Beneficial.

Hugh J. M. Jones said he thought a wonderful benefit might be derived from having Quincy and Barre men meet in this way. Heretofore when they thought of Quincy men it was as an Association. Now it is as individuals. If we can come together in a personal way and find out that our interests are mutual it would be of benefit to both.

E. H. Defebaugh, publisher of Rock Products, was called.

Mr. Defebaugh told of the situation in other industries and how it had always been proved that protective associations work great benefit for all concerned. The time has now come for granite men to get together and to get the profits they deserve.

"Nothing is so good as an exchange of ideas on methods. If you can lessen the cost of production, all right, but the main point is to increase the profits."

He advised the manufacturers to get closer together in their local associations and said that Rock Products would be glad to co-operate.

Thomas Mannex said he always found relations with Barre men very pleasant, and he wanted to have them get closer together. "When you want the best granite in the world get Quincy green."

John McDonald was introduced as "Honest John." He said it had been one of the most pleasant days he had spent in a long time and he hoped these occasions would continue. "We don't seem to have confidence enough in each other to benefit each other. The now defunct granite exchange, which was one of the best things that ever happened to Barre, proved that. It is only from the weak things we do that we learn to do the strong things and something better and stronger modeled on the lines of that exchange is sure to grow from it. It needs meetings like this to create confidence in each other."

A Permanent Bretherly Union Suggested.

W. T. Spargo, the Quincy veteran, said: "We do not meet for sociability only. We should recognize each other as brothers. We should organize and come together. I move that the two executive committees correspond with each other and see if they cannot arrange matters."

The president thought they ought to choose committees separate from the executives because the latter usually had all they could do. He called for a discussion.

T. W. Egan said that while these two centers represent 75 per cent. of the entire monumental business of the country they ought to organize. "I don't begrudge a good man \$3.00 a day. I don't think we need to organize entirely against the labor question, but more against each other and to crush out the unscrupulous competition. There ought to be brains enough amongst us to formulate a plan for destroying this enemy to our prosperity."

Mr. Miller moved that it be the sense of the meeting that a committee of three be appointed from each association to see what can be done to better the trade.

Mr. Egan seconded the motion and it was carried unanimously.



QUARRY OF J. K. PIRIE, BARRE, VT.

ROCK PRODUCTS.

Not a Bad Plan Either.

Joseph Walker said: "You have the granite; you have the facilities. I want to see you make a good living. The trouble with us all is that we used to cut stone for less than \$3.00 per day; we got into the rut of living on that and we haven't had the ambition to get out of it. I think it would be a good plan for us to raise our price of living, buy fast horses, keep a retinue of servants and every other sort of luxury, make it cost us, instead of \$3.00 a day, \$7.00 or \$10.00 and then we'll have to make our business keep up with us."

Eugene Sullivan heartily favored these meetings and the plan of getting together and he said so.

Genial Dick Adds a Song.

Richard Trout said he never saw a better class of people than he had met in Barre and that he almost had heart disease when he first saw the Barclay plant. The Burns monument was the finest thing of the kind he had ever seen. Mr. Spargo interrupted him and asked him to sing. The genial "Dick" complied with the request and entertained the party with one of his own selections as only Richard himself could do it.

This closed the meeting and the remainder of the evening was spent in "getting acquainted" until they were warned that another day was coming, and that a few minutes sleep would whet their appetites for the morrow.

VISIT THE QUARRIES.

Saturday morning dawned so bright and clear that everybody was convinced that the weather had been made up in advance by the executive committee.

Shortly after 8:00 o'clock Barre men and Quincy men boarded two trains and were taken over the famous "Sky Route" to the quarry district four miles up towards Heaven.

A jollier crowd never stood together on Mill Stone Hill. The Barre people enjoyed the trip almost as much as the visitors, and it certainly was a grand sight.

PARTY ON THE TRAIN TO QUARRIES.

People From Quincy.

John Wood, Edw. Monahahn, Ernest Saunders, Dr. F. S. Andrews, Daniel McInnes, J. M. Smith, James Marr, J. Hector, John E. Ford, John J. Nirey, William Marshall, Forbes Craig, J. C. Murray, Alex Emslie, Alex. Kirkland, Jas. Craig, Jr., Neal Carlson, John Robbie, Jas. Malcomb, George Ruxton, H. S. Nicoll, E. Morgan, George T. Magee, Thos. Maddox, George H. Field, James Nicol, Alex. Birnie, Philip Cook, John Anderson, John Trow, John P. Galvin, F. M. Hughes, R. B. Sprague, Andrew Milne, Jr., A. O. Dick, A. W. Gales, Don Bishop, Alfred Bishop, Joseph Walker, W. R. Fagan, W. T. Spargo, P. J. Williams, George Clark, Calvin Fletcher, C. H. Peverley, T. J. Dunphy, George T. Mogle, E. E. Morgan, G. F. Field, C. W.

Nightingale, A. W. Loud, Alex. Howie, Sr., Alex. Howie, Jr., Russell Lowe, M. J. McGuinness, George Ruxton, John W. Thompson, Richard Gordon, Alex Kemp, F. M. Weld, N. Reed, A. Vendret, J. Hardy Welch, A. W. Smith, F. Craig, Jr., John Collins, Richard Mason, George Walcott, John R. Richards, James Sector, Alex Murray, Harry Loud, A. D. Kirkland, Richard Prout, George Prout, G. H. Thomas, William Parker, P. J. Williams, Andrew McIntosh, P. W. Driscoll, William Robertson, J. A. Simpson, John Walters, J. F. Fennessey, Alex Faulkner, Chas. Swingle, John Richards, Benj. Fuller, J. H. Elcock, F. E. Goss, Andrew Erickson, Thomas Mitchell, W. L. Birnie, P. I. Litchfield, John Cushman, Jr., F. F. Coy, J. F. Ford, Joseph Kelly, F. Morrison, G. L. Badger, Fred Barnicoat, Robert Smith, Edward Marnock, Wm. Spargo, Jr., Thomas Bisson, Jr., James Cantill, Wm. Higgs, James Higgs, Thomas Riley, Robert Robertson, Thomas Robertson, James McLeod, Victor Malcom, John Bissett, John Gall, W. J. Parker, W. R. Thomas, A. O. Diack, P. Cormick, P. W. Mannex, D. Monahan, Henry Hughes, P. T. Fitzgerald, G. L. Badger, John B. Reinhalt, W. J. McDonnell, James Kelly, C. Barnicoat, S. Barnicoat, H. W. Adrian, W. R. Fagan, George Clark, Robert Craig, Alfred Malcom, John Craik, John Mathieson, George Craig, Sr., George Craig, Jr., George Williams, Daniel McGinness, John Anderson.

People From Barre.

H. K. Bush, George Stratton, Harry Smith, W. A. Moore, J. H. Moore, Joseph Brault, Will Calder, Will Anderson, Eddie Anderson, A. L. McLeod, Angelo Scampini, Eugene Sullivan, William Scott, James Scott, James Brown, I. W. Bates, Sam Gerard, F. H. Burke, Clarence Wheaton, A. Anderson, W. W. Parry, E. O. Kent, William Carroll, P. McNulty, W. S. Littlejohn, J. P. Corskie, E. A. Bugbee, Douglas Barclay, James Mackay, George Hoyt, C. D. Swasey, W. A. Liberveau, F. T. Cutler, Caseltini, David Jones, W. Clark, John Wyllie, Jas. Walker, J. Long, George Walker, Sr., F. Wheaton, C. W. McMillen, Jr., J. Smith, A. Bird, Jr., M. W. Nelson, J. Nelson, Arthur Young, O. J. L. Matthews, Walter Young, Alex. Innes, H. J. M. Jones, Ebe Carroll, E. M. Tayntor, David Mortimer, Chas. Marr, James Milne, C. Robins, Werner Beck, A. E. Liberveau, G. A. Cody, S. Rizzi, C. Thom, L. S. Gates, N. D. Phelps, Malcolm McIver, H. A. Phelps, W. Cole, J. A. Martinson, John Stephen, Will Anderson, Mr. Hart, B. Albessetti, Clarence Worthen, C. R. Scott, C. N. Scott, Dr. W. E. Lazelle, F. B. Mudgett, A. J. Young, James Ingram, E. W. Cummings, Robt. Diack, John E. Smith, W. G. Reynolds, Wm. Wm. Alexander, Jas. Campbell, C. W. McMillen, A. Burke, J. McDonald, Wm. Barclay, M. J. Tierney, Danl. McLeod, Alex. Buchanan, James Adie, W. N. McIver, Jas. Sullivan, C. T. Campbell, Jas. Mathison, Wm. Walker, O. N. Marci, Lillian Marr, Alex. Innes, William Duff, George Duncan, L. C. Beck, T. J. Blann, A. G. Gammie, George Walker, J. M. Corskie, George K. Carle, John McDonald, J. R. Reinhalt, John B. Reinhalt, Alex. Milne, George E. Bond, M. T. Cantfield, L. M. Williams, Thomas Newcomb, H. C. Whitaker.



THE WETMORE & MORSE GRANITE QUARRY WITH VISITORS.

People From Montpelier.

D. F. Ryle, Thomas Egan, R. C. Bowers, Joseph Brown, D. F. Ryle, J. M. Boutwell, P. Cormick, Clarence Whittier.

People From Other Points.

A. L. Adler, New York; G. L. Rowe, Keene, N. H.; W. E. Patch, Calais, Vt.; George A. Githens, Boston, Mass.; George S. Oldham, Philadelphia, Pa.; John McLeod, Graniteville; J. P. McDonald, Buffalo; G. H. Gilman, Franklin, Pa.; James K. Pirie, Graniteville; D. L. Rowe, Poulton, Vt.; Drew Daniels, Waterbury, Vt.; E. H. Defebaugh, Louisville, Ky.

The train stopped first on the east side of the mountains, where the light quarries are located. Here they saw the property of the Manufacturers Granite Co., T. W. Eagan, McDonald & Cutler, Littlejohn & Milne, Jones Bros' tight quarry with its two immense steel derricks, Innes & Liberson, and the Standard Granite Co.

After a thorough inspection of these quarries the whistle called all hands back to the trains and they swung around the brow of the hill to the Wetmore & Morse Granite Co. quarry.

On their way back to the track the party came across a big double team loaded with just the things that everybody wanted after a two hours climbing over the rocks. The committee was blessed by everyone and then they waded in to answer the call of the inner man.

After a half hour's rest and refreshment the railroad men carried us around to the west side of the mountain and dumped us out on the brink of J. M. Boutwell's immense dark quarry excavation. Near this were seen the quarries of the Vermont Granite Co., Milne, Clarihew & Gray, Jones Bros. (dark), Marr & Gordon and the Barre Granite Quarry.

At Boutwell's the visitors were interested to see the biggest derrick of the kind in the country, the stick rising in the air 102 feet.

Beyond these was seen the famous Wells & Lamson dark quarry now owned and operated by James K. Pirie.

Last but by no means least, in fact one of the grandest sights on the hill was the E. L. Smith & Co. quarries. Expressions of astonishment were heard on all sides, from Barre men as well as from the visitors.

There are many notable quarries on the hill that were not visited simply because time would not permit it, but the visitors saw enough of the representative plants to cause them fully as much surprise as did the inspection of the cutting sheds.

Your Uncle Fayette Cutler was in as much glory as a ladies man at a church social.

If Robt. Burns had turned up he would have been right at home with the granite boys.

Say, the new drills at work means that the application of air and steam for drilling purposes is a success.

That wheelbarrow race in which the veteran Quincy manufacturer Field won in thirty-two seconds, beat all former athletic feats.

Drew Daniels from up the state, with quarries at Calais, Me., enjoyed the occasion and his sample of Maine granite interested us customers.

Swingle and Ford, of Quincy, both saw some good things in granite lines at Barre, and being up-to-daters were happy that they came in full force.

There were very few wild stories of large production of stone at minimum wage, for I'll tell you 15,200 feet of stone is a good quantity to produce.

The retail dealers should be invited to the next conference, and it be strictly a joint affair, expense and all, then it will be a "whoop a la" for granite.

Hugh Jones, Fred Mudgett and Wm. Spargo ought to attend all sessions, they enliven the Band Wagon, just add Dick Prout and H— will be turned loose.

"Pa" Barclay, the winner of the first heat in the running race, was the youngest man present except Wm. Spargo who was born six years earlier, and don't you forget it.



SEEING THE ELEPHANT.

The feature of the whole, and the much discussed barbecue now had its innings. The train was run direct to Caledonia Park, a beautiful picnic grove half way between Barre and Montpelier, owned by Clan Gordon, of Barre.

The barbecue committee, or "pig committee," was on the spot, in fact they had been sweating like slaves for two or three days to get everything in readiness to welcome the crowd. Right here let us tell who this committee was composed of, for they deserve more than passing mention. They were R. C. Bowers, Joseph G. Brown, T. J. Callaghan, George Robins, and A. J. Young.

A large tent, capable of seating 450 people, was the first thing we saw after climbing the hill. Behind this were the ones who ran the show. C. W. Allen and wife, of Lexington, Va., were the chefs engaged for the occasion. They began their cooking operations the night before according to the custom of the good old Georgia barbecue artists.

They caused to be dug in the ground a long trench about three feet wide and three feet deep. In this was placed a quantity of charcoal, secured from another part of the state, and after the fire was burning nicely immense pans were placed above the blaze. Pigs, chickens, lambs, and a loin of beef were furnished, together with the necessary vegetables. As to the result of the process the 410 hungry souls who sat at the long table and filled their skins with the good things

would be unable to find words adequate to express their satisfaction. Where they failed we must throw up our hands also and say with everybody else "it was the greatest ever."

Then there was something going after the feast, things "too numerous to mention" in these peaceful columns which are supposed to be devoted to the gravestone business.

There was no gravestone party there. Everybody just let loose, threw dignity to the four winds of heaven and became boys again.

Interesting and Diverting Stunts.

Big Fire Chief Williams and little Dick Prout did the cake walk; Fred Mudgett was making fun all the time. The veterans Spargo ran a race with Mayor Barclay and got beaten.

He was heard afterwards explaining how it happened. He said the Mayor was six years younger and he ought to be spry.

Through it all Wilder's orchestra discoursed sweet music, and things looked better every minute from the start until the finish.

The evening was passed by some about the city and by a large number at the Manufacturers' Club where refreshments were served, and a rousing social time enjoyed by all as the grand finale to a memorable occasion.

The Quincy boys left for home at 2 o'clock Sunday afternoon, and parting handshakes were accompanied with regrets that there comes a time when the best of friends must part.

The visit was a great thing for Barre, and it was a great thing for Quincy. May the custom become as old as the granite hills before there even comes an interruption to its annual recurrence, and may it bear fruit that will permit the hard worked granite manufacturer to make the money that he ought to make.

It wouldn't be a bad idea to suggest right now that the retail dealers of the country be included in the similar events of the future.

The machinery men on hand were Sam Oldham, the plug drill man of Philadelphia, Gilman, of Franklin, Pa., Rowe, the wire rope man, Getham, of Boston. They did good stunts for the pleasure of all.

Mr. George Milne did his best in his quiet way to make the Quincy men have a good time.



Scene in granite quarry of McDonald, Cutler & Co., Barre, Vt.

NOTES.

A good pair to draw to, Alexander and Campbell.

The exchange of visits from old friends of the two cities brought many back to "Bonnie Scotland."

Chief Cooks Bowers and Brown were right at home. That soup made you think you were in New Orleans.

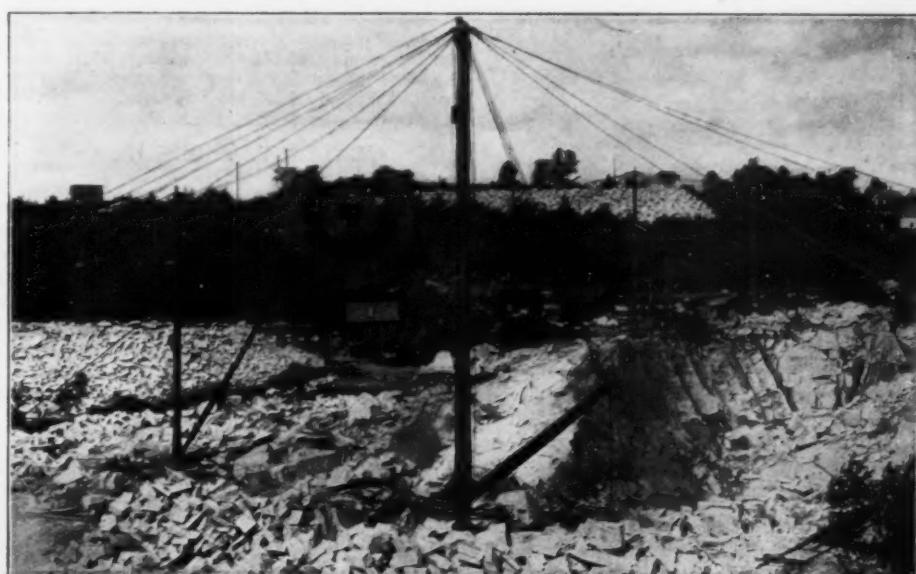
City Clerk James McKay, for many years connected with the granite business couldn't stay away. It seemed like old times.

President Nicoll and Dick Prout were inseparable, but when the cake walk was "on" Chief Williams, of the Quincy, and Dick did the act in great style.

Manager Morgan, of the Quincy Quarries Co., was alive to methods in quarry and shop and made a close survey and was loud in the praise of what the Barre men were doing.

The Quincy crowd are, at this writing, bidding farewell to Barre, with the salutation, "Barre is all right. Who is all right? Barre granite men, God bless 'em for their hospitality."

Donald Smith wasn't on hand to show up his quarry but the eyes of the visitors were wide when they saw the air tools at work and the fine quarries of E. L. Smith & Co. operated—Licensee Com. Jno., the head of this firm, enjoys making, as far as possible, every one feel at home while in Barre.



JAMES BOUTWELL QUARRY, BARRE, VA.

• Menu • Georgia Barbecue.

Barre Granite Manufacturers' Association,
JULY 30, 1904.

New Orleans Chicken Gumbo,
Sliced Cucumbers.

Roast Beef a la Granite,
Creamed Potatoes.

Roast Young Pig a la Vermont,
Green Corn.

Barbecued Chicken a la Bowers

Spring Lamb a la Quincy.

Watermelon a la Mint.

CHEF C. W. ALLEN AND WIFE,
LEXINGTON, VA.

COMMITTEE: William Alexander, D. F. Ryle, T. E. Callahan, John W. McDonald, A. J. Young, James Addie, James Campbell, J. G. Brown, William Barclay, Jr., Dan McLeod, George Robbins, R. C. Bowers.

ROCK PRODUCTS.

HERALDS FROM QUINCY.

Up and Down on the Barre Special.

It was a happy, care-free crowd that left Boston Thursday night for a trip into the North country. The Quincy granite men and guests to the number of 145 made up the party and the incidents in transit were as numerous as they were interesting.

Chief Williams got separated from his partner, "Dickie" Trout, shortly before midnight, and his disappointment was keen when he learned that Dick had hid himself to the sleeper. He failed to see just where Dick could fit in the "Vanderbilt car."

Sleep was tabooed on the up trip. Nor were the occupants of the sleeper spared from the pranks of the merry roisterers. This was more noticeable at White River Junction where the train was held for an hour or more. Here the serenaders gathered in force around the "Gambia," and by their persistent din drove visions of Vermont hills, roast ox and picturesque Barre from the minds of occupants of the sleeper. The rude awakening was taken with the utmost good nature though, and a two hour nap was at a premium before Montpelier was reached.

The writer was made to know after the first night in Barre that one prominent Quincy manufacturer can qualify as an expert on fire alarm signals. Whatever that means! For a solution ask William.

Did you try the slot machine at the Junction?

After leaving Boston Secretary Tom Dunphy had every appearance of a rotary book-maker, even to the sheet and the wads of long green. Tom was collecting and assigning the berths in the sleeper. He works with a dash and the proper disposal of berths was made before the first thirty miles were covered.

Meet Me in Montpelier, Della!

In the coach ahead could be found some good singers. Jimmie Cantfields was at his best in solo parts. He was in rare good voice the greater part of the night, but toward daylight and Montpelier his mirth provoking asset failed him.

One of the local manufacturers took along his fall coat and but one pair of trousers. During his sight-seeing tour the seat of the pants "parted stays," to use a nautical term. There was some quick and lucky figuring by the estimator as how to get back unobserved to the hotel. It was accomplished with dispatch and some mortification. The sights of Barre were cut short for awhile or until the victim of the unfortunate accident could get into a pair of borrowed trousers. This was done, but the fit was previous and was easily discovered by the owner who started to remonstrate but cooled off when the joke of the affair became apparent.

Home Again—Jig—etty—gog.

It looked like another barbecue when the homeward journey was being made. About twenty miles north of Concord, N. H., the train was brought up with a jolt by a refractory cow, which persisted in staying in front of the Quincy special.

Chief Williams showed the Vermonters that he can trundle the wheelbarrow with speed. In the race he beat Sheriff Field by a fraction of a second.

Should auld acquaintance be forgot
Though the years be many or few,
We'll ne'er forget the time we had
At the Barre barbecue.

That Barre hospitality was without stint or limit was attested to when nearing Quincy. Two of the party admitted that they had not taken off their shoes since leaving home, which goes to prove that lavish entertainment was at the disposal of each and every one during the outing.

There is no denying the fact that the affair was a rip-roaring success in every particular, and whoever had the semblance of a kick coming should consult a liver specialist.

A Word About the Foot Races.

Galvin, of Quincy, beat Mudgett of Barre. No time taken. Mudgett said he could beat Galvin easily but wouldn't as he did not want to defeat a guest. Mayor Barclay, of Barre, beat Wm. T. Spargo, of Quincy. No time taken. It was a good race with honors even until Spargo lost his footing and fell. There is a possibility of it being re-raced on a better track next year.

The "foto" man was as plentiful as the bees in the rosebush.

Lawyer Thomas and Parker, ROCK PRODUCTS Quincy representatives, had a big time.

Jos. Boutwell, of Montpelier, is an auto subject, but like Reynolds when out for a long ride, his fast horses are good enough.

"ROCK PRODUCTS" was treated kindly.

QUINCY, MASS.

QUINCY, MASS., July 26.—The month past has been a busy one all along the granite line. The weather has favored advantageous quarrying while in the manufacturing district the orders for work show no abatement. Prior to a presidential election the granite trade is among the first to show a falling off in orders. This year has been an exception, however, and after the Memorial Day delivery, orders have been placed with the same volume as formerly. There are very few cutters loafing and at this writing conditions favor a good fall and winter trade.

The manufacturers' Association has perfected plans just as this letter goes to the mail for its annual outing, which will be held this year at Barre, Vt. Every member will attend or, at least, send a representative, and a gala time is expected. Barre's invitation to Quincy was accepted in the cordial manner it was sent and an efficient committee is arranging details for the departure on a special train.

Following is the committee who have charge of the comforts of the party until arrival is made in the Green Mountain City: Harry S. Nicholl, William T. Spargo and John L. Miller.

Andrew M. Deane & Co., are enlarging their cutting and polishing plant in South Quincy. Mr. Deane has lately purchased the mammoth car barn located in Brockton and formerly used to house the cars for the Old Colony Street railway system. The structure will be moved in sections to South Quincy and Mr. Deane intends to have his cutting, polishing, turning and carving done under one roof. When completed the plant will be one of the largest and most thoroughly equipped of its kind in the country.

James Duncan, National Secretary of the Granite Cutters' Union, and first vice president of the American Federation of Labor, was in town last week arranging preliminaries for the removal of National headquarters of the union from Washington, D. C., to this city.

Mr. Duncan has secured the Hancock building in City Square as national headquarters, while the Hancock Chambers next door have been engaged as the location for the printing plant for the publication of the official journal of the union. It has been decided to open the new headquarters on August 17, 1904.

Arthur L. Mitchell, representing the Falvey Monumental Co., of Washington, D. C., and Michael Sexton, Bridgeport, Ct., were among those to visit the trade during the month just passed.

Following are the shipments for rough and finished granite during the month of June: Quincy Adams, 4,631,610 pounds; West Quincy, 5,296,695 pounds; via Quarry railroad, 1, 675,540 pounds. Total 11,603,845 pounds.

WESTERLY, RHODE ISLAND.

WESTERLY, R. I., July 27.—As the traveler gets near Westerly the possibilities of the place loom up before him in the guise of enormous outcroppings of granite, and he hardly need to read the signs of Sweeney's Granite Works and Newall & Co.'s Statuary Works on either side of the road to realize that he is in a granite producing district. As he nears the town this fact is more strongly impressed upon him by the cars full of granite blocks on the sidings and the masses of granite everywhere around awaiting shipment.

Granite working is the largest industry of the place, in fact, the industry, and the fame of Westerly granite is widespread. It is a beautiful rolling country, profusely wooded and the tops of the derrick poles of the quarries just show themselves here and there amongst the trees. Everywhere the indications bespeak granite, and the manager of one of the large companies on the hill, pointing to the beautiful valley below, said:

"All the many houses you see peeping through the trees there, are houses of granite workers, which will give you some idea of the extent of the industry here. Moreover eight out of every ten own their own houses and have lived here right along, which strongly tends to the bettering of conditions here. We have very few strange workmen, and as the great majority are nearly all old residents with whom we have all grown up together it makes a community of feeling between us that helps to make everything go on smoothly and peacefully."

Active Operations on Numerous Jobs.

At the New England Granite Co.'s works on Ledward Avenue, they were full of work. Every shed was filled with workers and the ceaseless tapping of the pneumatic carving tool was heard on all sides. In the roadway a pair of sleek sturdy oxen were waiting for their next load, and all around were men busy in unloading blocks of granite. Mr. Randall, the superintendent, kindly pushed his work aside and gave your correspondent his undivided attention. Notice was called to a large contract the firm has on hand, the Camden County Court House. The plans show a massive quadrangular structure with a large and shapely dome. It calls for 80,000 cubic feet of granite, the base courses being of red granite, all of which comes from the company's quarries at Concord, N. H. It will be dressed partly up there and partly here in Westerly. It will take the remainder of this year to have the stone work ready. The plans are by a firm of Philadelphia architects, Rankin, Kellogg and Crane, and the Henderson Co., of Philadelphia are the general contractors.

The company has another large piece of work on hand, the Bessemer Building, in Pittsburg. It is a combination of theatre and office building, and is granite up to the fourth story, the remainder being brick and terra cotta. The granite will be all of the red variety and will take 12,000 cubic feet.

They are also making a balustrade for Morton F. Plant, to go to Eastern Point opposite New London. It is of light Concord granite and is about 300 feet long.

The company is likewise supplying a base of red Westerly granite for a large wall around E. C. Knight's residence at Newport, R. I. These jobs alone will keep over 500 men, cutters and quarrymen, between Concord and Westerly, running busy for the rest of the year.

They are just finishing up the last of blocks for the lower part of the Trinity Building, 111 Broadway, New York. These are of red Westerly granite polished, which stone comes out beautifully when so treated. They have already supplied 250 tons and two cars more are yet to go.

They are now shipping the last of the stone for the German Savings Bank at Fourteenth Street and Fourth Avenue, New York. This has been a big piece of work which has run over two and a half years from the receipt of the plans. The stone now being shipped is for the corner entrance. Both sides have been done and the corner was left to the last on account of the difficulties in getting a sufficiently solid foundation for it as the subway work there permitted no deep support, and made the ground there just a shell. The building is four stories and basement, with a frontage of 135 feet on Fourth Avenue and 150 feet on Fourteenth Street. The entire building has been made over as it stood, being occupied all the time, and the details had to be taken off from the old wall, and the draftsman who did it vividly remembers what a trying piece of work it was, when you consider what trouble a difference of $\frac{1}{4}$ inch in granite measurements will make.

They also supplied the stone for the Christian Church of Christ, Scientist, at Ninety-sixth Street and Central Park West in New York, which has the tower which is a landmark up and down the Avenue and from the Park. The tower is octagonal and sloping, finished with a cap on the same lines. The interior of the tower is moulded and paneled out in such a way that the getting of the lines was a job to which the German Bank detail was second. The man who had the work in charge said the cap was set on the tower last fall in a very heavy snow storm and glad he was to see it successfully completed. It had been building since 1897.

The company's plant is as complete an up-to-date plant as can be imagined. Every known ap-

pliance of merit is represented there. Every time and labor saving device that is known is installed as soon as its worth is demonstrated. Every kind of pneumatic tool is there, the Kotten, the Chicago, the Dallett, the Oldham, and Mr. Randall said he got good work from them all.

The Westinghouse Co. has just put in a large motor in the company's works at Concord, N. H., the motive power being got from the Concord Electric Co. H. G. Kotten has also just put in two of his large crane surfacers and two pneumatic plug drillers; and an air compressor. The Ingersoll-Sergeant Co. has just made an installation of the class "J. C." L. P. air cylinder, 16 $\frac{1}{4}$ inch diameter by 10 inch stroke. H. P. air cylinder, 10 $\frac{1}{4}$ inch diameter by 10 inch stroke. When operating at a speed of 150 revolutions per minute, it has a piston displacement capacity of 348 cubic feet of pure air per minute and is designed for a final working air pressure of 80 to 100 pounds per square inch. The principal dimensions are: Length over all, 10 ft. 3 in.; width, over all 5 ft. 10 in.; weight, 12,000 pounds; belt wheel, 6 ft. diameter; 13 inch face and cubic feet in foundation 135.

Fine Monument Designs.

The Westerly Granite Co., on Oak Street, is one of the growing concerns of the place. It has its own quarries in Westerly from which it gets a pink and a white granite. The white comes from the neck between their's and Chapman's old quarry, while the pink comes from the other side. They do the highest grade of work in carving, statuary and monumental work generally. They have an improved modern plant, with traveling crane, polishing machinery, air compressors, a Lunt & Morse, Boston, gasoline engine, and some of all the various first-class pneumatic tools. Business has been very good with them both on their own and on outside contract work, and they are running a gang and a half on full time. One of their latest completed pieces of work was a heavy cross, 8 ft. high, with a bank of Bermuda lilies 2 ft. high, which is a marvel of beautiful intricate carving.

Good Business in Dimension Stone.

Mr. Sweeney, of the Sweeney Granite Works, received the reporter very cordially in his downtown office and said, "There is not very much to be written about my plant. We furnish rough dimension stones only, doing no dressing of any kind. We have been in it fifteen years and as far as I know there was previously no firm then that made a specialty of rough stone only. We also get out paving stone and crushed stone for paving and other purposes. Our Farrell rock crusher is now turning out for us 300 tons of crushed rock per day of ten hours. Business is fair and we have no cause to complain.

Busy With Trade Work.

Mr. A. Farrell, of A. Farrell & Sons, on Oak Street, was home again from St. Louis, where he was the delegate from Westerly to the National Democratic Convention. Mr. Farrell has clear and forceful views on the political situation and can give some very interesting reminiscences of the proceedings at St. Louis, which are now a matter of history. Mr. Farrell inclines rather to do work for dealers than directly, and in this line he has on hand a number of important commissions for some large houses. Business is good with him and he is working all hands full time.

The Benvenue Granite Quarry Co., Middletown, Conn., is building a new stone power house at Maromas. Mr. James Moore has the work in charge.

The Norfolk Granite & Marble Co., North Canaan, Conn., has been incorporated with a capital stock of \$100,000.00. The incorporators are: G. W. Greene, E. L. Roberts and George A. Marvin, all of North Canaan.

The Borough Granite Works Co., Brooklyn, N. Y., has filed articles of incorporation. The directors are: Aniello Cirillo, James Montuon, Carlo Pecketto and Andrew D. Brown, all of Brooklyn. The capital stock is \$10,000.00.

Reports from Lithonia, Ga., state that the Georgia Granite Co., of that place, are pushing the building of their road to Rock Chapel Mountain, and will sometime later make intersection with the Seaboard at some point near Tucker. This is a project that has been contemplated for many years by business men of Lithonia interested in granite. When this has been accomplished, the business outlook for that city will be very bright.



The National Quarry Owners' Association.

D. McL. MCKAY, Chicago, Ill.	President
W. H. WALLACE, Bay Port, Mich.	First Vice President
F. A. BROWN, Aberdeen, S. D.	Second Vice President
S. M. HALL, Bucyrus, Ohio.	Third Vice President
E. H. DEFEBAUGH, Louisville, Ky.	Secretary-Treasurer

Official Organ, ROCK PRODUCTS.

Fine Fire Record.

ROWLESBURG, W. Va., June 30.—Mr. H. W. Rightmeyer, of the Preston Bluestone Co., says: "A monument of Preston bluestone stands directly in the first district of Baltimore, and the Safety Deposit and Trust Co., of Baltimore, within the past year completed their handsome new bank building on South Street of that city. This building was erected principally of stone which came from the quarries of this company. These bank people, as well as the owners of these quarries, are proud of this work and it is the only building in the burnt district that had a place to do business the day after the fire."

THE PRESTON BLUESTONE CO.

No Substitute Can Last.

The cut stone business has suffered like many others in the increased use of substitutes, because they have been pushed and these lines have been neglected somewhat, but now you can expect to see more cut stone used as it is the ancient accepted material with which to erect permanent structures after all the fads and innovations have prevailed for their brief day, and always found wanting in the class of "best."

Dull Business Reported.

STONE MOUNTAIN, Ga., July 15.—Mr. Carl T. Wells, writes, "Quarrying business has been dull this season. Paterson, Collier & Smith are building three miles of railroad to reach Rock Chapel mountain where they will develop extensive quarries of stone suitable for street work, grading, etc. They expect to have the work finished in about 15 days. The quarries of this section are operated on a basis of 10 per cent. profit on the stone handled."

The Western Ohio stone quarry has recently passed into the hands of Geiger and Wilhelm, of Lima, Ohio, who propose to operate the quarry and give all orders for their product prompt attention.

The sale of the Quincy Granite Quarries Co., that has been in the hands of a receiver for some time, has been confirmed, and the price paid was \$75,000.00. The sale was made by the American Loan and Trust Co., Boston, Mass., as mortgagee. The company will be reorganized at once.

Reports from Augusta, Maine, state that R. D. Shanahan, of Portland, Me., has leased the Freeport granite quarries, and will supply material to be used in the government fortifications at Great Diamond Island.

The marble quarries at Concord, Knox County, Tenn., known as the Reynolds & Heiser quarries, will be opened immediately and worked on a large scale. They are said to be the largest quarries in the country and produce a variegated marble of very fine quality.

Marble quarries owned by George H. Kester, of Lewiston, Idaho, and others, situated on Snake river, are being opened up. This marble is a beautifully variegated variety and takes a fine polish.

Geo. Shifflett, Marble Falls, Texas, has leased for a period of years the immense sand-stone quarry from T. B. Woods, the owner. These quarries include the entire sand-stone mountain, a freak of nature, and extensive railroad switches, tracks, etc., valued at \$250,000.00.

The New Ulm Stone Co., New Ulm, Minn., is putting in a stone crusher at their quarry. The demand for the crushed rock from their quarry is increasing steadily and they may be forced to add more machinery to their crushing plant soon. F. W. Stolle, 5127 Cabonne Street, St. Louis, Mo., writes: "I have about fifty acres of limestone quarry property located some eleven miles from St. Louis. This stone contains 97.22 lime, four to five ledges and sound. This quarry is equipped with two of the latest style high speed saw gangs, derricks, hoists, Gates crushers and buildings to accommodate fifty men. The quarry is not at present in operation on account of being too busy looking after quarry interests in Illinois where we have been getting out ballast at the rate of about 800 tons per day. We would dispose of the Missouri property to a desirable party."

Casper Stolle Quarry Co., Quarry, St. Clair Co., Ill., writes: "Prospects just now are not very bright. We have recently put in 16x16 Sullivan two stage compressor and we have a No. 3, 5 and 6 Gates crushers in operation, and we use Sullivan and Ingersoll drills quite extensively. The capacity of our plant is 1,000 tons per day and we are going to turn out a large quantity of crushed stone to be used by the railroads for ballast and other purposes."

One of the crushed stone plants of A. J. Wellington, of Boston, Mass., is located at Salem. This crushing plant is a little out of the ordinary in that a great deal more storage capacity is provided and a wide range of sizes carried in stock. The quarry is very favorably located, has a very high base, small stripping and easy outlet on the level. This plant furnished crushed stone for all sorts of concrete purposes, either for cement or asphalt work of any sort. The stone is such that it would be of little or no value for anything but crushed stone.

The Southern Quarry Co., Rock Fish, Va., has been incorporated by W. E. Austin, president; R. A. Chester, Washington, D. C., secretary and treasurer, and H. G. Williams, who formerly traveled in the South for the Austin Manufacturing Co., will be manager of the quarry. They have installed an Austin No. 7 $\frac{1}{2}$ and No. 4 crusher and have an ideal plant in operation within a short time.

The Solvay Process Co., Syracuse, N. Y., have just purchased another drill generator from the Marvin Electric Drill Co., of Binghamton, N. Y., being the second one they have installed in six months. Their old generator which has been in service for eight years handled the drills a mile and a half away, running ten hour a day and sending more than 1,000 tons of rock over the cable road every 24 hours, besides marketing the cut stone. They hope by increasing the drill capacity to do away with Sunday work in the quarries.

Lightning struck the connecting wire to a charge of powder in the stone quarry, of E. Schaefer, of Toccoa, Ga., setting off the blasts with disastrous results. Ten men were injured, and some fatally.

The owners of the LeGrande Quarry Co. have notified the State Executive Council at Des Moines, Iowa, of an advance in the price of stone which is required for the historical building and library, a State institution. The quarrymen claim that there has been an enormous increase in the cost of labor, and a higher price will have to be paid for the stone than when the building was commenced. The Executive Council has taken the matter under advisement.

The Standard Crushed Stone Co., with offices at 322 Market Street, Camden, N. J., has been incorporated with a capital stock of \$6,000.00 to work quarries, mines, etc. The concern was incorporated by M. Wiegand, M. W. Darnell, W. S. Darnell, all of Camden.

Two thousand tons of stone are being quarried daily at the quarry of Johnsons' Island Stone Co., which is being shipped to Cleveland and Lorain, Ohio, for the construction of government piers. About 150 men are being employed at the quarry and the force will soon be increased to 250 men. All the laborers at present employed are Italians, with the exception of ten Americans who are acting as superintendents of the different departments.

Stone.

LEADING CONTRACTORS.

Sketches of the Plants, the Methods and the Men Who Make the Cut Stone Industry.

PAPER NUMBER THREE.

TOLEDO, OHIO, July 25.—Almost every one who travels through Toledo is familiar with the sign "Albert Neukom's Cut Stone Works" since the cars from the depot all pass the place, and the handsome brownstone office building always attracts attention.

We are pleased to call attention to a cut stone contractor so well and favorably known among the stone trade as Albert Neukom. Mr. Neukom's long service in the business, as well as his genial manner, has made him many friends. Of course he did not gain his present standing without many hard knocks. When he came to Toledo in the early 70's as a boy, cut stone business did not amount to much. But, in partnership with L. Wernert, he started out about 1875 in the cut stone contracting business with a yard on the Lakeshore railroad. Times were none too prosperous, and after four or five years Mr. Neukom bought out his partner in the business for about \$17.00, which shows that no very great profit had been made up to that time. Mr. Neukom had faith in the business, and putting forth renewed energy during the next few years, he pushed his business to the front to such an extent that the Lakeshore location became inadequate and he found it necessary to find other quarters. He located at his present site at the corner of Broadway and Ottawa streets, which is in the heart of the city, and is located upon a navigable waterway, and within a stone's throw of all the railroads entering Toledo. Mr. Neukom plodded along in a modest way for a few years, gradually adding to his plant and in 1902 completely remodeled the whole plant, making everything modern and up-to-date. The brownstone office previously mentioned, which is of Swiss design, was built at this time. The cutting shed will accommodate about forty men. Two gang saws are operated in the saw shed, with a storage and finishing yard in between the two buildings. Very little except sandstone and limestone are cut at this plant.

Two years ago the increase in the business and in the usefulness of his son George made it advis-

able for Mr. Neukom to have his son become interested in the concern. George has had a good education and eleven years' experience in every phase of the cut stone contracting business, and when the time comes for his father, Albert Neukom, to feel like laying down the work, George will no doubt prove a very capable successor in the line which his father built up. There is no danger of the saying proving true "the son who followed his father's footsteps did not make the same success that he had." George is a young man and is an enthusiastic cut stone contractor, and the careful training that he has received at the hands of his father, combined with the interest in the business, can't help but be productive of good results. Aside from this, he has taken the step in the right direction and will soon become a benedict.

A System for a Contractor's Office.

In this system three copies of every estimate that is accepted are necessary—the original copy for the contractor or owner, an office copy for permanent record and a yard copy for the delivery of materials. All three should be made out at one writing. As frequently happens, the yard

also. It is necessary, therefore, that reference be immediate to the estimate first given. An index card is therefore provided for each contractor to whom the same estimate is supplied. This enables the office estimate to be located by the name of the contractor who secures the work.

The office and yard copies are removed from the file and the yard copy goes to the foreman as an order for supplies. The office copy is filed so as to call attention of the proper department to it at the successive dates when the work should have advanced to a definite stage. This insures that materials are forwarded on time for the different classes of work to be done.

The reverse of the office card may be used as a cost record. It should be ruled for entry of material and labor required on the work, thus keeping on a single card form the original estimate and the original cost. The value of this for comparative purposes is easily recognized. After the work has been completed the card may be held under a daily and monthly index, insuring that the matter will be called to attention in time to take out the mechanic's lien if the payment is not made previously. When disposed of the cards should be filed according to estimate or contract number.

ESTIMATE NO.	DATE	
R. L. ANDERSON & CO.		
WE HEREBY PROPOSE TO		
FOR THE SUM OF _____ DOLLARS _____		
SQUARES	SLATE	ESTIMATED AT
FT.	RIDGE	
FT.	TIN VALLEY	

copy may not be used, but stationery is less expensive than errors arising from rewriting.

When an estimate is called for it is figured on the blank shown in Fig. 1. The blanks are bound in pads of two linen sheets and one card. The card is the third form, the projection to the right furnishing the price column, which will not appear on either the yard or contractor's copy. The various materials are listed on the card and the probable quantity of each is entered at the left.

For the contractor's copy a perforated sheet may be used so that the quantities on which the estimate is based may be detached. The estimated cost of each is extended to the column at the right, which does not appear on the contractor's or on the yard copy. The price is entered at the top of the card and the contractor's sheet is attached and handed to him. The office copy and yard copy are now filed together until they are needed. If the name of the owner of the building is always known, filing may be by his name, otherwise either by the name of the contractor or by the estimate number.

In many cases other contractors who are bidding on the same piece of work call for estimates

PIQUA, OHIO, July 26.—The D. C. Statler Co., write: "We have recently made improvements in our stone crushing plant that enables us to produce ten cars of the dark graded rock a day. We are also able to produce 15 or 20 cars of fluxing stone a day from rock that shows an average analysis of nearly 98 per cent. carbonate of lime, with approximately one half of one per cent. of silica. Notwithstanding this almost unequaled purity, this remarkable stone contains no phosphorus at all."

Fine Opportunity in Stone Business.

MINNEAPOLIS, MINN., July 20.—The Chalker Stone Co. write: "We desire to dispose of our business. Kindly put us in touch with some one likely to negotiate with us. Our office is located at 600 Lumber Exchange. This is a fine opening for any one wishing to enter the stone business."

Wants Price List Published.

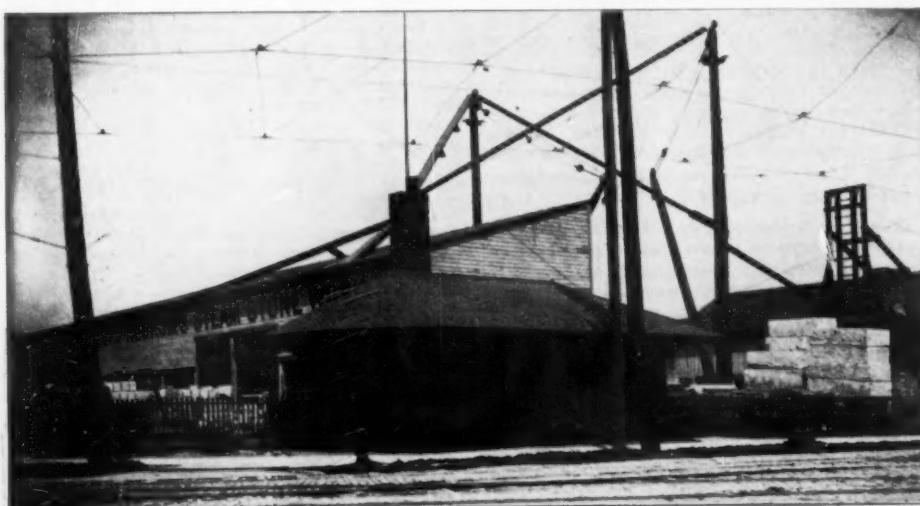
FORT MADISON, IOWA, July 6.—Fort Madison and Appanoose Stone Co., write us: "In compliance with your suggestion, we would frankly state that we believe it would be appreciated by your readers to have a quarterly or monthly publication of price list of stone in different markets. Possibly some of the trade may think this should not be done, but we think that it would be a matter of such importance as to warrant you in asking the opinion of a few leading quarrymen. It appears to us that instead of breaking down prices, it would be the means of maintaining them, as it would 'knock out' the fellow who claims he can buy stone for less money."

The Mt. Airy Stone Co., of Logansport, Ind., has increased its capital stock to \$25,000.00.

The Bedford Buff Stone Co. has increased its capital stock from \$30,000.00 to \$50,000.00.

The Stony Ridge Stone Co., Stony Ridge, Ohio, has recently been incorporated with a capital stock of \$5,000.00, by James W. Wagoner, Herman F. Franz, John Karp, G. F. Wagoner and C. J. Miller.

The Buena Vista Freestone Works, Buena Vista, Ohio, is to be operated again soon. The plant will be either leased and operated by the W. W. Hamilton Co., of Cincinnati, Ohio, or sold to them outright.



ALBERT NEUKOM'S CUT STONE WORKS, TOLEDO, OHIO.

BUILDING PROJECTS.

PHILADELPHIA, PA.—Plans have been completed by Cope & Stewardson, architects, for the Presbyterian Hospital, in Thirty-ninth Street above Market. The building is to be four stories high. Henderson & Co. are estimating on plans for extensive additions to the court house of Hartford county, at Bel Air, Md. It is to be a two-story brick and terra cotta building. A two-story frame stable 45x35 will be erected soon for Malcolm McLoud at St. David's. It will cost \$5,000.00. Additions will be made to the German Hospital, interior and exterior alterations, at a cost of \$20,000.00, by Raymond Raff. Plans are being prepared for a \$30,000.00 parochial school and parish house for St. Boniface Church at Patterson, N. J., by George I. Lovatt. A ten-story apartment house will be erected soon in this city. It is to be of fireproof construction with exterior walls of brick and terra cotta, to cost about \$250,000.00. Plans for this building are being prepared by Charles Barton Keen. Roydhouse, Arey & Co., contractors, have taken out a permit for the erection of buildings for E. K. Janney & Sons, leather manufacturers, that will cost in the neighborhood of \$82,000.00. This building will be located at Delaware Avenue and Van Kirk Street. An eight-story factory building 80x100 feet will be built by Thomas M. Seeds, Jr., at 1210 to 1216 Race street and is to cost \$135,000.00. Cramp & Co., Charles Gilpin and J. E. and A. L. Pennock are estimating on revised drawings for the public school building to be erected at Plainfield, N. J., according to plans by Hale & Morse, architects. It is to cost \$25,000.00.

ROCHESTER, N. Y.—The property located at Main Street East, and Prince Street has been purchased by the State as a site for the new State armory. The amount paid for same was \$50,000.00. The building will be erected at an early date.

VALDOSTA, GA.—The mayor and council, and the city board of education have agreed to issue bonds for the new school building. A bill will be introduced in legislature at once to raise \$35,000.00 for this purpose.

BUFFALO, N. Y.—Preparatory work is being done for the building of Keith's theatre. It is to be located on the old North Church property on Main Street.

LINCOLN, ILL.—J. M. Deal, of the firm of Deal & Ginzel, architects, has been on a visit to Mt. Vernon where he went to get a contract for plans for a new township high school building to be constructed at Mt. Vernon township, Jefferson county. The new school building will cost \$35,000.00, and to be strictly modern construction.

CAMBRIDGE, MASS.—Plans have just been accepted by the Rev. P. F. Kelly, the pastor of St. John's parish, North Cambridge, Mass., for the erection of one of the handsomest and most commodious places of worship in Cambridge. The plans were gotten up by Maginnis, Walsh & Sullivan, architects. Work on the structure will be begun as soon as possible.

Fairfield, N. J.—The Board of Education, of Caldwell township, met recently at the Fairfield school house to consider proposals for a site for a new school. About three months ago the people of that city voted \$6,000.00 to purchase a site to be located as near the centre of the township as possible. It was thought when the money was voted that the school building would be ready for occupancy by September, but it will not be ready before January. Plans for the building have been adopted, and as soon as the site is determined on, contracts for the construction of same will be let.

Sterling, Ill.—A contract has been awarded W. J. McAlpine for the construction of a \$35,000.00 postoffice building. The building must be completed by September, 1905, and is to be an imposing one. Mr. McAlpine is a noted contractor, and has been receiving from time to time contracts for similar buildings for a number of years. I. E. Brown, state secretary of the Y. M. C. A. has approved plans for the new Y. M. C. A. building at Sterling. The building committee will next approve of the plans when bids will be asked for.

Louisville, Ky.—The Fiscal Court has ordered warrants issued to pay for the Shreve property to be used for a site for an armory.

Hopkinsville, Ky.—It is reported that a \$40,000 theatre will be erected in Hopkinsville in the near future.

BIRMINGHAM, ALA.—A handsome brick structure will replace the old Wesley Chapel, the second Methodist church organized in the Birmingham district, and stand where the old structure stood for so many years, at the corner of Seventeenth Street and Seventeenth Avenue, North, and will cost in the neighborhood of \$14,000.00. The present pastor is Rev. Ira F. Hawkins. It is reported that Birmingham is to have a new high school and two elementary school buildings in the near future. \$200,000.00 worth of city school bonds have been issued for the erection of same. Address Mayor Drennen for further information.

MACON, GA.—The entire lot of the \$20,000.00 worth of bonds issued by the city for the erection of an auditorium has been sold. A federal building to cost \$306,000.00 is also to be erected there. T. D. Tinsley, of the joint committee can furnish further information.

NEW ROCHELLE, N. Y.—The Board of Education of New Rochelle, N. Y., has voted to purchase a school site designating a part of the Sickles property on North Street. The plot has about 400 feet frontage, a depth of 380 feet and will cost \$17,500.00.

DAYTON, OHIO.—The Y. M. C. A. seeks more commodious quarters and contemplate erecting a structure that will cost in the neighborhood of \$350,000.00. The new building will be one of the largest Y. M. C. A. buildings in the country.

PORT CHESTER, N. Y.—Mrs. Dow, former principal of the famous Farmington (Conn.) school, will erect school for girls at a cost of \$200,000.00, on the twenty acres of Briarcliff Manor property she recently purchased that is not far from Pocantico Lodge.

WASHINGTON, D. C.—The inspector of buildings is preparing specifications to submit to several architects for the new Police Court building that it is said will be similar to the McKinley Manuel Training school, and will cost \$75,000.00.

CHICAGO, ILL.—A three-story apartment house designed for E. M. Lindquist by Fred Lindquist will be erected soon at 11 and 13 Oakwood boulevard at a cost of \$22,000.00. It will be built of pressed brick and stone.

MILWAUKEE, WIS.—Mr. H. L. Newhouse has designed for Henry M. Benjamin a three-story flat building to be erected at Milwaukee at Prospect Avenue and Kane Place. It will be of pressed brick and stone and heated with steam. The finishing of same is to be elaborate.

JACKSON, MISS.—Amite county is to have a new jail building to cost about \$12,000.00. Plans and specifications were drawn by F. B. and W. S. Hull. Address Mayor.

SHREVEPORT, LA.—A new National Museum to cost \$3,500,000.00 will be erected at Shreveport in the near future. This structure will be built of granite and it will require at least four years to complete it. Address the mayor for further information.

WASHINGTON, D. C.—The Engineer's Department of the District of Columbia have not decided to select the kind of stone which will be used in the construction of the new municipal building. However, Capt. Chester Harding, superintendent of the construction of the building, will submit a report within a few days. Several different kinds of stone are now under consideration and Capt. Harding hopes to get the specification in such a way that all bids will be based upon one certain kind of stone. According to the plans of the establishment of the War College and Engineers' School of Application at Old Washington Barracks fifty buildings will be called for which will be erected in the next year or two principally of brick and limestone. Forty of these buildings are now under way or about to be started. The entire undertaking is being accomplished under the direction, supervision and control of the Government engineers without the employment of contractors. All the necessary material will be bought direct and its utilization superintended by men in the Government employ. Capt. John S. Sewell, corps of engineers, is the officer in charge of the entire work. The plans and drawings by which the engineers are patterning their work were prepared by Architect McKim, who designed the improvements on the White House. The entire collection of buildings will be of harmonious construction and style of architecture. \$700,000.00 has been appropriated for the entire undertaking.

Asphalt.

VENEZUELA GOVERNMENT SUES THE TRUST.

Report from Caracas, Venezuela, indicate that the proceedings of the case against the Trust in connection with the revolution of General Manuel A. Matos, have been begun by the Government of Venezuela. President Castro has proved that it was not all a bluff on his part, as the making up of the case has been characterized by a representative of the Trust. The Venezuela government holds the Asphalt Trust responsible for all the enormous damage sustained in the two years and a half of the Matos insurrection, and places the loss at 50,000,000 bolivares (\$10,000,000.00) in which sum the defendants will be liable in the event that the case is proved in the Courts. The case of the Venezuelan government against the American corporation is being followed with great interest in Venezuela, as there exists an intensely bitter feeling. If the charges are proved, and the prescribed penalty inflicted, it will be the first instance of foreigners being punished for participation in an insurrection. General Francis V. Greene when told of the charges made by the Venezuelan government about his meeting with General Matos in Paris, and arranging details of the expedition of the Libertador said: "The whole story is a lie. I never saw General Matos in my life, and know absolutely nothing of the purchase of this filibustering steamer Ben Righ."

TO USE KENTUCKY ROCK ASPHALT.

One of the largest plants in the United States for the manufacture of asphalt blocks 4x4x12 in. in size is a probability soon to take shape at Cincinnati, Ohio, under the management of John J. Geghan, mineral expert. The blocks are to be made from Kentucky rock asphalt from Logan, Edmondson and Butler Counties. Mr. Geghan owns 682 acres of rock asphalt land near Costello, Logan County, Ky., which he says contains a deposit of rich asphalt 15 to 20 ft. deep, and which he estimates will supply 100 tons of asphalt a day for 300 years. By means of a patent crusher the rock is to be crushed the same as Trinidad or other asphalts (blocks for pavements). It is claimed that a street made of Kentucky rock asphalt at Columbus, Ohio, is the best street paving in that city. State auditor Guillet is interested in the enterprise, as well as Wall Street financial interests in New York City.

THE CRESCENT ASPHALT CO., AUGUSTA, ME., HAS BEEN INCORPORATED WITH A CAPITAL STOCK OF \$100,000.00, BY E. H. SIMMONS AND E. F. WHITTEM, BOTH OF AUGUSTA.

E. F. HUGHES, OF THE LAKE ERIE ASPHALT CO., OF TOLEDO, OHIO, SAYS THAT THE USE OF SALT ON PAVEMENTS BY THE STREET RAILWAY COMPANY TO CLEAR THE TRACKS OF SNOW, DOES MORE TO RUIN ASPHALT PAVEMENTS THAN THE ACTUAL WEAR THEY RECEIVE IN THE USUAL COURSE OF TRAFFIC.

THE CLEVELAND TRINIDAD ASPHALT CO., CLEVELAND, OHIO, HAS BEATEN THE TRUST RECENTLY IN SEVERAL COMPETITIVE BIDS BOTH IN THE HOME CITY AND IN DETROIT, MICHIGAN.

THE REPORT OF THE GENERAL ASPHALT CO., SUCCESSORS TO THE ILL-FATED ASPHALT COMPANY OF AMERICA, SHOWS A SURPLUS OVER CHARGES AND DEPRECIATION OF \$850,435.00 FOR THE THIRTEEN MONTHS' EXISTENCE TO JANUARY 31, 1904. THIS IS AT THE RATE OF 5 1/2 PER CENT. ON \$14,000,000.00 PREFERRED STOCK.

GENERAL SAMUEL T. CARNES, OF MEMPHIS, HAS PURCHASED THE PROPERTY OF THE CENTRAL ASPHALT AND REFINING CO., OF PORT NECHES, TEXAS, A BANKRUPT CONCERN, FOR \$1,000,000.00. THEY WILL AT ONCE ENLARGE AND IMPROVE THE PLANT AND BUILD A PIPE LINE TO DEEP WATER.

Monuments.

Iowa Monument Men to Meet.

The district summer meeting of the Iowa Marble and Granite Dealers Association will be held at Clear Lake, Iowa, August 24, and 25, 1904. Headquarters at Oaks Hotel.

Matters of importance to all will come up.

First:—Shall we carry among ourselves our own insurance against damage in shipment of goods as many different business lines are today; asking the railroad for lower rates and to be ready to help an unfortunate brother in case of loss.

Second:—Shall we carry in part or whole our own fire insurance. It certainly can be done with great saving to every dealer.

Third:—How shall we overcome the new law on demurrage which went into effect July 15, regarding local shipments. It is earnestly hoped all will come with this problem solved.

Fourth:—Shall a minimum price on all goods be established? This question needs the vote "yes" or "no" of every dealer in Iowa.

Reports Business Good.

HAGERSTOWN, Md., July 30.—Mr. E. H. Winnmer writes: "My business so far has been good. I am using in my monumental work the standard granite in grey. I think the Barre granite is the best on the market. And, in high colors, I think the Red Beach the best. For base work I use buff Bedford."

The Milwaukee Monument Co.

This firm recently erected a large plant at Fifteenth Street and Russell Avenue, Milwaukee, Wis.

The main building, which is of very substantial frame construction, is 354 feet long by 64 feet wide and 44 feet high,—the power house, containing engine, boilers, dynamos and air compressors being in a separate building.

This plant, which is built on the most up-to-date plans, is fully equipped with all the latest appliances for working granite.

Amongst the more notable of the tools are a 30-ton electric crane, pneumatic surfacing machines, pneumatic hand tools, and cutting and polishing lathes.

The firm has been established thirty years and formerly operated quarries at Barre, Vt., but when it became evident that the state of Wisconsin possessed such rich granite deposits producing material of a fine quality, they disposed of their eastern holdings and became heavy investors in Wisconsin granite quarries.

They operate quarries in Waushara and Marathon counties in Wisconsin:—the products of the Waushara county quarries are known under the name of Wisconsin granite, and the quarries in Marathon County furnish material known to the trade as Red Wausau granite.

The Waushara County quarries are equipped with a complete crushing plant—the chief product now being paving block, crushed granite and monumental stone.

They have a large amount of work on hand and have been obliged to work night and day all winter to enable them to keep up with their orders.

Their engine is one of Allis-Chalmers latest design—the boilers are made by Freeman & Son, of Racine, Wis.—the 30-ton traveling electric crane was installed by the Lane Manufacturing Co., of Montpelier, Vt.—the air compressor was furnished by the Ingersoll-Sergeant Co., and the polishing and cutting lathes made by the St. Cloud Iron Works, of St. Cloud, Minn.

The firm is composed of Otto Rathmann, president and treasurer; Conrad Roder, vice-president, and August Kringel, secretary.

Red Granite Growing in Favor.

ST. CLOUD, MINN., August 1.—Hales Bros. writes: "We are just finishing one of the finest mausoleums ever built in the Northwest, the entire building being of red granite, the outer walls of rock faced stone fine hammered, carved or polished in several different parts with bronze gates and trimming, polished granite doors, and is probably the only one in the West with the entire inside finished of polished granite. Work has been exceedingly good here this season, with hardly enough men to keep things moving. The demand for red granite is increasing faster as its worth, beauty and durability becomes known."

The Rylston Marble Co., Gouverneur, N. Y., will begin operations soon, giving operations to a large number of men. The Corliss engine recently installed by this company has been tested by an expert and found to be in perfect working order.

The White Crystal Marble Co., Watertown, N. Y., who furnished marble at a cost of \$250,000.00



150th Monument of this design cut by Geo. Walker & Sons, Barre, Vt.

for a palatial structure erected by Webb Horton, Middletown, N. Y., recently closed another deal of like proportions. The marble will be gotten out at once.

The New York Marble and Granite Co., of Harrisville, N. Y., has been incorporated with a capital stock of \$10,000.00. The company proposes to carry on building, operating, quarrying, etc. Mr. John J. Sullivan, formerly of Gouverneur is among the directors.

Mr. P. P. Cline recently sold his interest in the Gallatin marble works to W. C. Macy and C. A. Nixon. The business is now owned by Macy, Nixon and E. R. Achuff, the name of the firm being Macy, Nixon & Co., Gallatin, Mo. This concern is doing a good business.

Reports from Watertown, N. J., state that the St. Lawrence Marble Co., of that place, is about completing the erection of a large derrick to replace the one known as No. 1. The Northern New York Marble Co. is also erecting a new derrick the mast of which is over 60 feet in length.



Cutting Plant of J. B. Reinharter, Barre, Vt.

The New York Marble Co., Gouverneur, N. Y., are employing a large force of men to open up new quarrying grounds at their property four miles west of the city. An increase in the workings of this concern has been brought about by the great demand for their product for monumental and building purposes.

Mr. George W. Bell, Colville, Wash., owns a large tract of marble land on Clugston creek, where he has been engaged in development work, and reports a discovery of nearly a dozen different colors of commercial marble, any one of which is suitable for working on a large scale. He expects to interest capital in his properties with a view to erecting a machinery plant soon.

The Brunswick Marble & Granite Co., Jacksonville, Fla., has recently changed its name to the Southern Marble and Stone Co., with offices at Brunswick, as well as at Jacksonville. Manager Reed E. La Mance states that the work on the government building progresses well. This is a delicate piece of work, and one that requires experience.

The Baldwin Bros. Marble Works, Concordia, Kans., has recently been moved from Belleville. There was not enough vacant houses in Belleville to accommodate the operations of this firm, hence the move. The company will manufacture stone and brick of all kinds and employ a large force of men. C. R. Scott, is president of the concern, T. T. J. McCune, secretary, and C. A. Betourney, treasurer. It has a capital stock of \$7,000.00.

The largest fire which has visited Gouverneur, N. Y., occurred recently, completely destroying the buildings of the Gouverneur Marble Co., causing a loss of from \$80,000.00 to \$90,000.00 with an insurance of \$14,000.00. It is said that the company will rebuild at once. The business has been in a very prosperous condition, and the concern had more orders than they could fill. Mr. Maurice Eckman is superintendent of the plant.

One of the few really beautiful soldiers' monuments is to be erected in the Vicksburg national military park by the Vicksburg Monument Commission, and is to cost in the neighborhood of \$100,000.00. This monument is built in memory of the Iowa soldiers and is to be of marble. Capt. W. Rigby, of Mt. Vernon, president of the United States Park Commission, it is understood, has a general superintendence of all the work done there.

The Vermont Marble Co., Proctor, Vt., is making preparations to install at their plant a 3,600 h. p. electric plant to furnish power for light for its various plants in that vicinity at a cost of \$100,000.00. The General Electric Co., of Schenectady, N. Y., has been awarded the contract to furnish three 1,200 h. p. electric generators, and the I. P. Morris Co., of Philadelphia, Pa., will furnish three water wheels of 1,200 h. p. each.

Sidney A. Foster, of the board of park commissioners, Des Moines, Iowa, is at the head of a movement to erect a monument to the memory of Governor Kirkwood, Iowa's famous war governor. Mr. Foster wants this monument erected on the point of the bluff in South Park, from which it can be seen from nearly every direction of the city and from all railroad trains arriving and departing from the city. The State has been asked to aid in this movement.

The executive committee in charge of the work for the Hanna Monument Association has established headquarters at No. 202 Western Reserve building, Cleveland, Ohio. Voluntary subscriptions are to be forwarded to this address for the erection of a bronze statue to the late Senator M. A. Hanna. The committee is composed of the following: Samuel Mather, chairman; Gen. George A. Garretson, treasurer; James H. Hoyt, secretary; W. G. Mather, Myron T. Herrick, A. A. Pope, and Andrew Squire.

C. E. Mitchell, manager of the United States Marble Co., Spokane, Wash., states that the appointing of a receiver for the company is but a step toward reorganizing the company. It has some of the finest marble in its quarries to be found in the Northwest, and only lacks the necessary capital to operate the business on a successful basis. Mr. A. C. Shaw has been made receiver to straighten out the company's financial affairs, and it is thought that the time is not far distant when the company will be doing business again.

MONUMENTAL POSSIBILITIES.

Minneapolis, Minn.—Mrs. L. Christian, wife of the Minneapolis miller, died recently. A daughter of Mr. Christian, Mrs. Upton, died a few weeks ago as the result of the explosion of Mr. Christian's launch in Lake Minnetonka, at which time he was also severely injured.

Argentine, Kans.—Louis Voeltzel, Jr., department manager for the Continental Tobacco Co., was run into by a carriage while crossing the street and killed in Nashville, Tenn. His body was brought to his home in Argentine.

Brooklyn, N. Y.—George J. Davidge, treasurer of the Bijou Theatre, died recently at the age of 26 years. Mr. Davidge was a member of the well known family of comedians and funmakers.

St. Louis, Mo.—James M. Garvin, the veteran newspaper man, died a few days ago at St. Joseph, Mo. Mr. Garvin was connected with Circuit Attorney Joseph W. Polk, in the uncovering of bootlegging in Missouri.

Lexington, Ky.—Mrs. Francis Chevalier, aged eighty years, died at the home of her daughter, Mrs. Thomas Riley, on Friday, the 29th of July.

Cloverport, Ky.—William Witt, the oldest citizen of this city, died suddenly at the age of 89 years. He is survived by several children.

Mobile, Ala.—The Hon. Chas E. McLean, Mayor of Mobile, died July 11th, at the age of forty years.

Port Huron, Mich.—John Johnston, formerly mayor of Port Huron, died recently in Chicago.

Columbus, Ohio.—Richard A. Harrison, died on the 30th day of July at the age of 79 years. He was one of the most prominent lawyers of Ohio, and leaves a widow and four children, one of them being Mrs. D. K. Watson, of Washington, D. C.

Harrisburg, Pa.—After lecturing in Bloomington, Ill., Col. L. F. Copeland died suddenly at St. Joseph's hospital in that city. He was 63 years of age and had been a famous lecturer for thirty years. He was a native of New York. His body was sent to his home for burial. Address estate.

Booneville, Ind.—William Mobyes, died at his home here of a complication of diseases, aged 62 years. Several children survive him.

Lexington, Ky.—Isaac W. Scott, aged ninety years, died at the residence of his son, Joseph Scott, on the 28th ultimo. He was one of the best known men in Central Kentucky.

Birmingham, Ala.—Father Duff, a well known priest of this city, died here on July 19.

La Porte, Ind.—Charles J. Daniels, a prominent and wealthy land owner of Hamlet, near here, died in St. Louis suddenly recently. He was 47 years old. Address estate.

Grand Rapids, Mich.—George Schultze Baars, died at the age of 51 years from an accidental overdose of morphine recently. His brother, J. Frederick Baars, Jr., survives.

Great Falls, Mont.—W. M. Munroe, a civil engineer, died recently at his home here. Address estate.

Denver, Colo.—Louis R. Hope died at his home here recently.

Chicago, Ill.—George Mattoon died at his residence recently, No. 4338 Oakenwald Avenue. He was president of the Mattoon Manufacturing Co., Sheboygan, Wis., and his body was taken there for burial. A widow and two children survive.

Des Moines, Ia.—George Whitaker died at the Iowa Sanitarium here on July 18th. He was one of Des Moines' oldest citizens and was a prominent man. He was 74 years of age, and is survived by his widow.

Soldier, Kans.—Clarion S. Fleming was drowned while bathing in the Missouri river recently at Springfield, S. D., where he had gone to register for a homestead. The body was recovered by a fisherman and brought home by the boy's father.

Marengo, Ind.—Dr. L. B. Stewart, one of the oldest physicians in Crawford county, died suddenly at his home here of heart disease. He was 84 years of age. Address estate.

Atlanta, Ga.—Dr. Henry G. Green was run down and killed by a street car near the World's Fair grounds in St. Louis.

Frankfort, Ky.—Joseph Robinson, aged 81 years, a pioneer of the State capital, died at his home on the South Side on July 28 after a brief illness. Address estate.

Hartley, Iowa.—The little daughter of Will Smith, living north of here, died on July 23. She was eleven years of age and the only daughter.

Tobinsport, Ind.—Mrs. James Winchell died on July 28, of general debility. She had lived here for many years, and is survived by a son and several daughters.

Newark, Ohio.—W. G. Taefel, of the Newark Savings Bank, was found dead in the north fork of the Licking river. He was 46 years of age and is survived by a wife and several children.

Louisville, Ky.—Frank W. Bonnie, a prominent business man of this city, died at his home, 417 West Ormsby Avenue, as the result of a stroke of paralysis. His two sons, Frank and Frazier Bonnie, and one daughter were with him.

Seattle, Wash.—Henry T. Nash, general auditor of the Chicago banking house of N. W. Harris & Co., has died here at the age of 65 years.

St. Louis, Mo.—Mrs. Mary F. Scanlon, 67 years old, one of the wealthiest women in St. Louis, died suddenly of heart disease at her home, 3535 Lucas Avenue, a few days ago. Mrs. Scanlon is survived by the following children: Alonzo C. Church, 4 Lenox Place; Philip C. Scanlon, 3535 Lucas Avenue, Andre C. Scanlon, Richmond, Ky., and Mrs. Marie C. Scanlon Tiffany, 72 Vandeventer Place.

Georgetown, Ky.—James C. Lemon, one of the oldest and best known citizens of Georgetown, is dead at the age of 80 years. He has been for many years city clerk of Georgetown.

Philadelphia, Pa.—Robert E. Pattison, who was twice democratic governor of Pennsylvania and twice controller of Philadelphia, died on August 1, at his home in Overbrook, a suburb of this city, of pneumonia, aged 53 years.

Memphis, Tenn.—Mr. George Stene, of the firm of Orgill Bros., of Memphis, died at Colorado Springs where he had gone for treatment. He is survived by three sisters, all of Louisville, Ky., Mrs. J. W. Klein, and Misses Marie and Belle Stene.

New Albany, Ind.—Miss Anna Vernia, daughter of Mrs. Louis Vernia, East Tenth and Oak Streets, and sister of Edward Vernia, local freight agent of the Monon, died on July 30, at Raton, N. M., where she had been for her health. Besides her mother, ten brothers and sisters survive. Miss Vernia was a member of an old and prominent family of New Albany, and her death is a shock to the many friends of the family.

New Haven, Ky.—Richard E. Horrell, an old and respected citizen, died on July 30, aged 71 years. A widow and two daughters, Mrs. George F. Dawson, of Montgomery, Alabama, and Mrs. Frank X. Dawson survive.

Tell City, Ind.—Mrs. Mary Dickmann, young wife of Mr. John Dickmann, died at her home here of typhoid fever, aged 20 years. She had been married a year and a half.

Greenup, Ky.—Captain Isaac Miller, owner of the Fullerton ferry franchise, is dead at the age of 86. Address estate.

Wilmington, Vt.—Jerome Sondericker, Associate Professor of Applied Mechanics at the Massachusetts Institute of Technology, died in Wilmington, July 22.

Bachmont, Mass.—William J. Marvin, of Cambridge, Mass., died at his summer home here July 22, at the age of 75 years. Address estate.

New Orleans, La.—James Addicks died here July 24 aged 63 years. He was at one time an instructor at West Point.

Cleveland, Ohio.—John C. Moorehead, of the Erie railroad, died July 19, at his home here. He was one of the most efficient railroad men in the Central West.

Phillips Beach, Mass.—George Fordyce Blake, inventor of the Blake steam pump, died at his summer home here July 22, aged 85 years.

Leavenworth, Kans.—Alonzo J. Tullock died at his home here July 21. Mr. Tullock was born in Rockford, Ill., in 1854.

Paris, Ky.—William A. Johnson died at his residence on Stoner Avenue, on August 1. Mr. Johnson was a well known newspaper man and leaves a wife and three daughters.

Watertown, N. Y.—John Elliott Harroun, the well known lumber dealer, died suddenly at his home on Sterling street, July 13, of apoplexy, aged 65 years. His wife and one son, Elliott K. Harroun, survive him.

Bay City, Mich.—Joseph Eastwood, a widely known lumber man, died very suddenly on the 15th of July. His wife survives him.

La Crosse, Wis.—Francis Braun, once a millionaire, died at the home of Peter Flouri on July 11.

Minneapolis, Minn.—Frederick N. Armstrong, 53 years of age, died at his home here July 13. He is survived by a widow and four sons.

Stamford, Conn.—Andrew J. Scheleicher, head of the Scheleicher piano manufactory, died July 10, of pneumonia, at the age of 45 years. Address estate.

Bremen, Ky.—James F. Covington died at his home here July 6, at the age of 71 years. He was a prominent Mason and leaves a wife and several children.

Corbin, Ky.—Samuel J. Adkins died on July 13 at the age of 44 years, leaving a wife and five children. Mr. Adkins was a Mason and a good citizen.

Denison, Tex.—J. H. Murley, of Denison, who recently inherited \$30,000, and who was making his last trip as a brakeman, fell under the wheels of his train and was killed.

St. Louis, Mo.—Mrs. Lizzie Stratton, wife of William Stratton, of the Hunter Bros. Milling Co., died July 27, after a long illness.

St. Louis, Mo.—Mrs. Matilda Smith, mother of Alexander H. Smith, died July 23 in her ninetieth year.

Owensboro, Ky.—Judge H. M. Haskins, judge of the Davies County Court, died at his residence on Third Street on the 18th day of July. He is survived by a widow and six children.

Hopkinsville, Ky.—James M. Glass died here August 2, aged 78 years. His daughter, Miss Jep-
nie Glass, survives him.

Abbeville, La.—Mrs. Paul A. Martin died recently at her home here, aged 46 years.

Baton Rouge, La.—Dr. Henry C. Dearing died at the age of 49 years. Mrs. J. W. McMain, of Baton Rouge, died at her home at the age of 70 years.

Natchitoches, La.—Mrs. A. D. Leroy, aged 66 years, died recently.

Bellingham, Wash.—Frank S. Macintosh, who died here a few days ago, was buried on the 21st of July under the auspices of the local lodge of Elks, of which he was the founder.

Saginaw, Mich.—Frank D. Holihan, of the firm of A. E. Wilson & Co., died July 20.

Smith's Grove, Ky.—Stephen O. Lowry, one of the most prominent citizens of this community, died at his home four miles south of town in his eighty-fourth year. Address estate.

Booneville, Mo.—Warner Whitlow, died at his home here of heart failure, aged 80 years.

Yonkers, N. Y.—Herman F. Witte, died suddenly at his home June 26, aged 44 years. He was connected with the Otis Elevator Co.

Owenton, Ky.—G. W. Smith, a prominent democrat and one of the country's oldest citizens, is dead at the age of 79 years.

New York, N. Y.—Andrew Alexander, the shoe merchant of Sixth Avenue and Nineteenth Street, died at Lake Mohonk, July 29, in the 74th year of his age. He was a successful merchant and his gifts to foreign missions were large. His wife and six children survive him.

Anville, Ky.—J. H. Denham died July 6, at his home here, leaving a widow and several children. He was for 23 years a member of Pond Fork Lodge of Masons.

New York, N. Y.—Solomon Luke, a prominent wholesale dry goods man, died at his home, No. 207 West 140th Street, aged 85 years. He was associated with the late A. T. Stewart and with the H. B. Clafin Co.

ROCK PRODUCTS.

Lime.**The National Lime Manufacturers' Association.**

Meets Semi-Annually.

CHAS. WARNER	President.
Chas. Warner Co., Wilmington, Del.	
PETER MARTIN	First Vice President.
Western Lime Co., Huntington, Ind.	
O. F. PERRY	Second Vice President.
Rockland-Rockport Lime Co., New York City.	
W. B. HILL	Third Vice President.
Ash Grove Lime Association, Kansas City, Mo.	
C. W. S. COBB	Treasurer.
Glencoe Lime & Cement Co., St. Louis, Mo.	
E. H. DEFEBAUGH	Secretary.
ROCK PRODUCTS, Louisville, Ky.	

Official Organ, **ROCK PRODUCTS.****HEARTY CO-OPERATION.****Summer Semi-Annual Meeting of the National Lime Manufacturers' Association.****Standard Package for Lime Hydrate and Uniform Method of Quotation Recommended.****WILL THE GAS PRODUCER SOLVE FUEL PROBLEM?**

DETROIT, Mich., July 11-14.—The convention city was not materially disturbed by the arrival on Monday morning of many enthusiastic lime manufacturers. However, were it not for the fact that conventions are daily affairs in Detroit, the gathering of such large interests as were represented at this meeting would have attracted considerable attention.

The members in attendance were very prompt in their arrival, and shortly after noon President Charles Warner called to order those manufacturers who were making hydrated lime as well as those who contemplated going into the business shortly, for an informal discussion of problems connected with the hydrating business.

ATTENDANCE AT THE MEETING.

CALIFORNIA.—W. C. Reveal, Holmes Lime Co., San Francisco, Cal.

DELAWARE.—Charles Warner, Charles Warner Lime Co., Wilmington, Del.

FLORIDA.—J. B. Webb, Standard Lime Co., Kendrick, Fla.

ILLINOIS.—C. M. Lauritzen, Raymond Bros. Impact Pulverizer Co., Chicago.

INDIANA.—Peter Martin and E. M. Martin, Western Lime Co., Huntington.

LOUISIANA.—Warren Kearny, Crescent Chemical and Manufacturing Co., Ltd., New Orleans.

MASSACHUSETTS.—Byron Eldred, Mr. Eldred, Sr., Carlton Ellis, Boston.

MICHIGAN.—J. F. Duntley, Chicago Pneumatic Tool Co., Detroit; George Nicholson, Manistique.

MINNESOTA.—H. O. Duerr, Union Lime and Cement Co., Minneapolis; C. A. Luster and Charles C. Kritzer, Clyde Iron Works, Duluth.

MISSOURI.—Edwin S. Healey, Glencoe White Lime Co., St. Louis; W. B. Hill and A. H. Barton, Ash Grove White Lime Association, Kansas City; F. H. Hunkins, Hunkins-Willis Lime and Cement Co.; Phil H. Daurnheim, Chas. W. Goetz Lime and Cement Co., St. Louis.

NEW YORK.—Thos. D. Cone, National New Process Lime Co.; New York; F. C. Lauer, Rochester Lime Co., Rochester; F. L. Lane, Paragon Wall Plaster Co., Buffalo; Byron Eldred, Eldred Process Co., New York.

OHIO.—Lawson Moores, The Moores Lime Co., Cincinnati; W. S. Sutliff, Seneca White Lime Co., Fostoria; M. B. Davey and H. H. Brand, Toledo White Lime Co., Toledo; C. A. Burgess, Ingersoll-Sergeant Drill Co., Cleveland; Woodville Lime Co., Woodville; S. D. Wright, The Atlas Car and Manufacturing Co., Cleveland; F. E. Hall, Akron Bag Co., Cleveland; R. S. Thurston, Ohio Lime Co., Toledo; A. H. Lauman and William Zorn, Standard Lime Co., Gibsonburg; William Urschell, Woodville Lime Co., and B. H. Urschell, Urschell White Lime Co., Sugar Ridge.

PENNSYLVANIA.—A. A. Stevens, American Lime and Stone Co., Tyrone; A. H. Lauman, Standard Lime Co., Pittsburgh; W. L. Heisey, High C. Lime & Stone Co., Rheaems; W. H. Bradley, The Duffs Patent Co., Pittsburgh; Luther Keller, Scranton; W. B. Irvine, Knickerbocker Lime Co., Philadelphia; W. F. Osborne, Pennsylvania Electric Co., Marietta; H. A. Gathrop, Charles Warner Co., Cedar Hollow; John H. Holmes, J. B. King & Co., Philadelphia.

WASHINGTON.—John S. McMillan, Tacoma & Roche Harbor Lime Co., Roche Harbor.

WISCONSIN.—J. M. Connell and Robertson Cook, Union Lime Co., Milwaukee; J. W. Ormsby, Western Lime and Cement Co., Milwaukee.

The ladies present were: Mrs. Peter Martin, Mrs. F. C. Lauer, Mrs. W. S. Sutliff, Mrs. T. D. Cone, Mrs. Chas. Warner, Mrs. H. O. Duerr.

The ladies made many little side trips to the shops and about the city. One street car trip in particular, under the generalship of Mrs. T. D. Cone, was commented upon by many of the ladies as being a delightful experience. Mrs. Cone was popular with every one and proved a fine entertainer at all times.

The main feature under consideration was to try to arrive at the best method of handling the lime hydrate package problem, that is to try to bring about more uniform packages and more uniform practice with reference to the repurchase of burlap bags when the material is shipped. Another matter under advisement was a standard size of package both for paper and for burlap, also a uniform method or manner of quoting, so that quotations from all firms should be readily comparable. The matter of terms or credit was also given some attention, that is the time allowed for the net payment and the discount allowed for payment within ten days. With reference to the handling of burlap bag rebate, or repurchase, there seems to be some little diversity in practice, and the experience of those who have tried various ways of doing this was freely given. As a result of the discussion, it seemed to be the general opinion that the only satisfactory way is to have each customer purchase the bags as a part of his order and that the shipper shall purchase those bags back, paying cash for them unless the customer has an overdue account.

On the size of the package shipped there was also some little diversity in practice, but after a considerable discussion and exchange of experiences almost all were in favor, for the sake of uniformity, of adopting a paper sack which should contain forty pounds, and a burlap bag which should contain 100 pounds.

It was further suggested that all quotations shall include the price of the package, and that no bulk quotations shall be made for lime hydrate which is to be put up in packages. It is also figured out that it was advisable to have a uniform difference between the price quoted for hydrate in paper and that packed in burlap, and it was recommended, after much discussion, that this difference be \$1.00 more for burlap than for paper and that the burlap bags should be repurchased at 10 cents each.

With reference to terms of payment, the different sections had different ways of handling this matter, but it was recommended that quotations be made net thirty days with a discount of 1 per cent in ten days.

The meeting adjourned at half past five to meet later for a little boat ride to Belle Isle. The majority of those present were on this trip, and spent a very pleasant evening between the boat ride to the island, the promenade through the park and the circus lemonade at the hostelry.

TUESDAY, JULY 12.

The meeting was called to order promptly by the President at 9 a. m., as announced by the

program. The regular routine business was carried out, consisting of roll call, announcements and reports of standing committees. This was followed by the President's address, and papers presented at this meeting. The recommendation of the Committee on Hydrated Lime, essentially as outlined above, was accepted as being good practice, and almost all signified their willingness to adjust their method of doing business to this basis as early as possible, although this was not considered obligatory by any of them. The matter as to the advisability of stamping the weight on each package sold was discussed to some extent and laid over for consideration at a later session.

During the afternoon session the committee's report advising the stamping of the sacks was accepted. The papers read at the forenoon session were the president's address and a paper by H. O. Duerr, of Wilmington, on "The Contract System in the Quarry Business." During the morning session the paper by George Waring, "Agricultural Limes," was mentioned as being of considerable value, and it was suggested that it be published as an appendix to the minutes of the meeting.

The President also announced the invitation of the Clyde Iron Works to the entire party to make a trip to the hydrating plant which had been installed by this company at Sugar Ridge, Ohio, and that they would provide a special train at the time most convenient to the Association. It was therefore decided to start at 8 o'clock on the following morning, July 13. Invitation was also extended to visit the Detroit plant of the Chicago Pneumatic Tool Co.

PRESIDENT'S ADDRESS.

President Warner said in substance that it accorded him great pleasure to welcome the members of an Association which was more than one hundred strong, and represented considerably over one-half of the lime production in the United States. He also said it did not become a youngster to brag and he would therefore keep quiet. He esteemed it a privilege to meet so many men of experience and ability in the business, and he felt that no one knew so little but that they could give him pointers on something at least. He also suggested that while we are improving our modes of manufacture and methods of operating our plants, we must not neglect to at the same time improve our business methods by promoting greater uniformity in methods of quotation and terms of credit. Further, we have discussed many methods of improving the Association, some of which are feasible under present working conditions, others which would not be feasible without modifications of our constitution. There are a few things which seem desirable to some that would involve greater expense in the way of dues, which does not meet with the approval of all at the present time. The promotion of local associations is very much to be desired, and we trust that the members of the National Association who are in unorganized districts will make an effort to bring about a better feeling. The most popular feature of the Association today seems to be internal education. The various points in manufacture, and the best methods of attaining ends are called for frequently by the members.

It has been suggested, and might further increase the value of the Association, to have a central bureau working in conjunction with engineers and chemists, and that eventually a paid secretary of the Association who was well posted along these lines, both practical and technical, might be employed and take charge of all experimental work. If such a thing was brought about, the problem of enlarging the market, finding new uses or increased uses for lime could well be handled by such a man or such a bureau. Such a move, of course, would necessitate the increase of dues of the association, and many believe that the results obtainable from such an effort would more than recompense a very large increase in dues. The development of such a system would naturally be slow, but surely educative.

It has also been suggested that some of the papers, as well as additional information, might well be furnished by the association at the cost of publication to the various manufacturers, who might issue these with their own name and address upon them and their compliments as an advertising medium.

Following this paper, there was considerable discussion with the President, by Mr. Lauman, Mr. Stevens, Mr. Hill, Mr. McMillan and Mr. Martin, with reference to standards and methods of handling hydrated lime on the market, the result of which has already been outlined.

QUARRY WORK UNDER THE CONTRACT SYSTEM.

BY H. O. DUERR.

(In Abstract.)

Mr. Duerr gives the results of his observations during the ten years of quarrying and handling stone for lime and for crushing purposes. He begins first with the stripping problem, and has concluded that the stripping can be done cheaper by working a separate gang entirely on that work during the summer months and uncovering a considerable body preparatory to later work. He also says that stripping should be kept well in advance of work, and drainage provided so that dirt shall not wash over the face of the rock. The manner in which the stripping shall be done will of course depend upon local conditions.

With reference to the drilling, he says it is impossible to lay down any rules, but he is fully satisfied that this work, as well as all other work, should be done by contract rather than by day wages.

Drilling by air is the most economical for quarry operations of any extent, and steam should be discarded for any permanent quarrying. He considers the best results are obtained by working ledges sixteen to twenty feet in depth, placing the holes six to nine feet from the face of the quarry and the same distance apart. He also suggests the desirability of having all drills of a standard make and of the same size, so as to always have repairs at hand. At the end of any season, all tools should be put in perfect repair. In the beginning it was quite a problem to know just what should be paid for contract work but, basing these prices upon what seemed to be the average conditions, the good men were able to make more money than they did before, and the firm obtained more rock for the same money than they had under the preceding state of affairs.

The blasting can be done very economically and safely by a good man, but great care should be used in his selection, because nearly all accidents have been proven to be due to carelessness, and one man alone should be responsible for the handling of all high explosives.

The results obtainable or the methods adopted will depend upon the nature of the deposit you are working. For quarries which lie in full seams, the best results are obtainable by squibbing your holes and shooting off one or two at a time, but if the stone is in even courses very good results are obtained by shooting off a number at one time. The results, of course, will depend upon the character of the rock, to some extent.

Because you are using more dynamite than the specifications will say you require, it does not follow that you are losing money, since you may be fracturing your rock enough more and saving labor to more than compensate the additional cost of dynamite.

With reference to hand drilling or block hole work, there have been a number of pneumatic tools introduced for this purpose which are apparently giving very great satisfaction.

In breaking and loading, which is one of the leading features, and one which may mean the making or breaking of any quarry corporation, it was his experience that two tons of stone could be broken and loaded per day of ten hours for each lineal foot of quarry face in operation.

When working on contract work, your men should be divided into gangs of two or three each, and the tracks should run into the quarry twenty feet apart, giving each gang of men a car and a track. Each gang should be paid per car, and let them divide among themselves. The most successful quarry car is one holding about three tons. A low car is always desirable. Transportation by car is far cheaper than any other, and he is not a friend of the cable system of transportation.

He also believes in an elaborate system of time keeping, so that you may know what the different classes of work cost you and what the stone costs you at any one point. He recommends for the transportation of the stone to the lime kiln a skip similar to that used by blast furnace people for charging furnaces. These skips should be large. He adds a few words with reference to stone crushing plants.

His observation is that nearly all beginners in the crushed stone business build their plants entirely too light. In putting up a crushing plant, everything should be made strong, and the vibration reduced to a minimum. The worst feature about light construction is the cost of repairs and the loss of time due to breakdowns.

He always urged caution in the introduction of the piece work system, and great care should be exercised to establish a price which can be maintained as a standard, because if it is too low it will discourage the men at the outset, and if it is too high he will meet with great difficulty in reducing it. With the piece system, when there is a breakdown the majority of the labor expense ceases. One great objection is that if your men make good money by piece work they will want to lay off more and make trouble this way. Piece work does two things. It not only reduces the cost of production, but increases the capacity of your plant.

The discussion of this paper was lengthy and interesting, and was participated in by Mr. Nicholson, Mr. Moores, Mr. McMillan, Mr. Stevens, Mr. Sutliffe, Mr. Connell and the President, bringing out quite a number of facts with reference to the hand or plug drill. The consensus of opinion seemed to be that for limestone work particularly the light 19 or 20-pound drill was the most satisfactory. The contract price paid for drilling large holes, or running the large drills was from 4 to 5 cents a foot, and for the small drills or plug hole work from 12 to 15 cents per foot.

The noon recess followed.

AFTERNOON SESSION.

The report of the Committee on "Hydrated Lime Standards" was adopted as already indicated.

THE APPLICATION OF PRODUCER GAS FOR LIME KILNS.

BY H. P. DODGE.

(In Extract.)

The paper was read by the author's associate, Mr. H. H. Brand, setting forth as one of the advantages in the use of gas the ease with which it can be applied and the accuracy with which it can be controlled, and the author feels that this and several minor advantages are sufficient to more than offset the loss of energy due to the gasification of coal in a producer.

During the process of burning with gas the combustion is much more complete, and no coal is lost through the grate bars, and the labor cost is also materially reduced. It is always desirable to have a producer close to the kiln.

The paper mentioned a number of mistakes which had been made at their plant, which was a pioneer in its line, all of which cost them something, but most of them have been overcome today, and, so far as production of a good quality of lime, and smooth, easy working of the plant are concerned, they are pretty well satisfied, but they do not state what the economy in cost of production of lime is as compared with the operation under natural draft. Mr. Brand also had passed around a series of photographs showing the plant and producer with explanatory notes.

The question of soot is a troublesome one, and ample provision must always be made to get rid of it. The best results are obtained from good clean coal, high in volatile matter and low in ash. Dillon or Pittsburgh No. 8 coal, and the West Virginia coal proved their favorites. Jackson and Hocking coal did not seem to be so satisfactory. Youghiogheny coal gave very good service, but the West Virginia coal, taken all around, seemed to be the most desirable.

The discussion of this paper was handled in the main by Mr. Eldred, Mr. Ellis and Mr. Bradley.

Mr. Eldred got the floor at once, saying he had a few things that he wished to say and would be compelled to leave the meeting shortly. He said that one of the objects of his visit was to learn why any one would recommend the gas producer as a lime burner, and he wished to call attention to a few things which he had not learned yet.

Mr. Brand stated that the output of lime per pound of coal was something like 3 2-10 pounds, and that Mr. Warner could state that he had gotten as high as 5 pounds of lime per pound of coal.

Mr. Ellis followed, calling attention to the loss of 20 per cent. due to gasification and radiation, and suggested that a modified coal fire or steam gas producer fire, such as Mr. Eldred had introduced, would give a greater fuel efficiency than anything which had been so far presented.

The President then called attention to the fact that there were other things besides fuel economy to be considered, such as labor saving, depreciation of plant and necessary repairs.

Mr. Bradley, of the Duffs Patent Co., was next asked to speak upon the subject. He stated that the Duffs Patent Co. had installed a plant at Gibsonburg two months ago, and that it was working to their entire satisfaction so far and that they would be glad to show it to any one that was interested, as well as a few points in defense of the gas producer.

Mr. Lauman and Mr. Zorn were asked with reference to the economy or production. Mr. Lauman said that while they were trying to keep records, they had not been in operation long enough to give any satisfactory figures or comparison as to cost of production.

During the discussion which followed it was shown that at some plants where the Eldred system had been introduced the output of the kilns had been increased with the same amount of fuel. Mr. Davey, superintendent of the Toledo White Lime Co., stated that they were at the present time making a saving of about 10 per cent. with the producer over the old direct fire kilns, with about the same fuel consumption, and there was also a saving of about 10 per cent. on the labor. Thus they had gained 10 per cent. increase in output and at the same time a 10 per cent. reduction in labor.

THE USES OF LIME.

BY S. V. PEPPEL.

(In Abstract.)

The subject was taken up under two heads, "Lime for Building Material" and "Industrial Uses."

Under "Building Material" its use in mortars, hard wall plaster and lime-sand brick were discussed, indicating the type of lime which was most desirable for each purpose. Under "Industrial Uses" the various manufactures which use lime were pointed out, such as the manufacture of glass, manufacture of the alkalies, manufacture of sugar, paper, slag, cement, magnesia covering and fire proofing, steel and tin plate mills, fertilizer works, treatment of water, as a carrier for chemicals, basic lime, soap, bone ash, gas and oil purification, distillation of coal, disinfectants, as a spray for trees and bushes, tanning, textile industries, manufacture of ammonium sulphate, potassium dichromate, the manufacture of pottery ware, manufacture of salt, for agricultural purposes and for fluxing, stating with reference to each which type of lime was most desirable.

Following this paper the President made inquiry as to how many would make the trip with the Clyde Iron Works people and it was decided that about forty would go.

The paper presented by Thomas W. Cappon, of New York, was read by President Warner.

RECENT IMPROVEMENTS IN THE TREATMENT OF LIME.

BY THOMAS W. CAPPON.

(In Abstract.)

Mr. Cappon called attention to the fact that sand-lime mortars for plaster purposes had gradually declined in the estimation of architects, because at best it only showed a low degree of hardness and was very susceptible to moisture, and set up much slower than the hard wall or gypsum plasters, and that unless something was done to stop this decline lime-sand mortars for this purpose would be a thing of the past. However, he followed up by stating that the means was at hand for preventing this in the shape of a new process for cementing material which uses lime, retaining its good qualities without its defects.

He called attention to the action of chlorine upon magnesia which can be introduced by means of almost any soluble chloride. This is simply the sorrel cement reaction which consists in the hardening of bodies through the formation of oxychlorides. Magnesium is one of the elements which is very prominent and safe in the formation of the oxychlorides.

Another point which he brought out in favor of this method of treatment was that the cheaper element in the mixture was one which predominated. It is necessary that the magnesia be in strong excess, and only small amounts of the chloride are necessary. The necessity for very thorough slaking is just as essential in the use of this cementing process as it is in the use of any other lime mortar. He does not recommend the direct addition of acids to the lime, either slaked or unslaked, unless this be done in the presence of the sand which is to accompany the mortar, in which event the large body of sand will take

care of the heat generated by chemical action. By the use of this treatment he was able to increase the tensile strength of mixtures of sand and lime as much as five times. He recommends it, when specially prepared, as a good hard finish which is capable of taking a high polish. The cost will vary with local conditions. If some waste by-products, such as often occurs in the manufacture of salt, are available to furnish the chlorides the cost will be low.

The paper was of such a nature that it did not admit of much discussion, but great interest was manifest, and many questions were put to Mr. Cappon, who was present, by Mr. Stevens, Mr. Hill, Mr. McMillan, the President, Mr. Lauman and others.

Following this discussion the President called attention to the question box, stating that no doubt many of the questions which people had in mind had been answered by the various papers and discussions, but he presumed there were a few unanswered questions left over. Along this line there was a little discussion as to standard packing of lump lime, which is getting to be pretty near 200 pounds to the barrel.

Mr. Lauer then took up the matter of the use of mica schist in lime kilns, by stating that he understood some few people had been making use of this, and he would like to know how they did it.

Mr. Irvine replied that he had been using some of it for some time, and that it came from about twenty miles from his kiln. He stated further that when the kilns were well lined up with it, it lasted very well. The main fault he had to find with it was that it was taken out in rather bad shape and the waste was so great. It should come out in pieces eight inches thick and two feet long. The waste, he said, was readily ground up and made a very good sand. It is probable that if the quarry owners would dress it to approximately the size desired by the lime kiln men that it would be found to be an economical lining for lime kilns.

The matter of the place of meeting was next brought up and an Eastern point seemed to be desirable. On motion of Mr. McMillan the time and place was left to a committee of which the President should be chairman.

The meeting was adjourned.

EXCURSION OF THE CLYDE IRON WORKS.

One of the most pleasant and enjoyable trips of the entire meeting was that to Sugar Ridge, Ohio, to inspect the hydrating plant which had been installed at the plant of the Urschel White Lime Co. at that place.

This trip was made possible through the courtesy of the Clyde Iron Works, who provided a special train of three cars to make the trip, going and coming as rapidly as possible, as well as to make the time to suit the convenience of those who wished to go. All, without exception, were invited, and nearly all were able to avail themselves of the invitation. It was one round of pleasure from start to finish, since the train belonged to the party, and every one could do just as he pleased and not excite any comment from outsiders. There was almost everything that heart could wish for in the way of eatables, drinkables and smokables, and the pilots of the party. Mr. Luster and Mr. Kritzer, felt hurt if all did not partake of something.

About 7:30 in the morning the lobby of the Cadillac was well filled with lime people, because no one desired to be left. A few minutes later the merry party was on its way to the Grand Trunk depot where a Lake Shore train with steam up was waiting. The only stop made was at Toledo for the purpose of hooking on an Ohio Central engine to complete the trip. The run was made in about two hours, landing the party on the siding a short distance from the plant.

Perhaps the best way to express the interest shown would be to state that it had been calculated by every body that less than one hour at the plant would be ample, but the interest was such that it was impossible to move the crowd until they had spent over two hours there. Everything was thrown wide open and all questions answered freely. Many who had never seen lime hydrated before marveled at the manner in which the dry powder was boiled, saying, "Why it looks just as though it were liquid." Many others when they saw the hydrating was done in an open vessel said: "Oh my! this would be so dusty that it would impossible to stay any way near it." But, their opinion was not quite correct, because all of them stood around the hydrating mixer almost all the time and the only inconvenience experien-

ed was during the making of the finished product, and Mr. Kritzer said that in the machinery they are building to-day they eliminate this feature by having a central dump instead of a side dump. While there probably was a little dust present, it was carried up through an open hood and did not distribute itself through the surrounding space to amount to much.

Mr. Kritzer was "it" on this occasion and said that his men were not accustomed to so many visitors, and in consequence were more or less rattled, and things did not move quite as smoothly as in every day operations. All think, however, if he had kept quiet no one else would have realized the difference, although he was probably truthful in his statement.

Mr. Kritzer says that the plant has been running steadily and turning out a large amount of hydrated material of a quality satisfactory to the Urschel people. It probably took about twenty minutes to run off a batch, and it was supposed that one batch would satisfy the curiosity of the visitors, but all were so interested in it that they wanted to see it done two or three times.

When through watching the hydrating process they broke up into parties and investigated the various features of the plant, such as kiln construction, burning facilities and general plant arrangements. The plant was not set up as a model



Going down the pike to see the Clyde Iron Works.

what they had to sell. A great number expressed themselves in this manner: "This seems like a very simple and easy way to hydrate lime, the very simplest in our reach, and all the company have to do to gain our support and recommendations for this process will be to prove to us that the product is as good as any ever produced."

It makes us hungry yet to think about those sandwiches and those nice spring chickens which were had on the way back to Detroit, and the way they disappeared proved that the quality met the approval of all. While the company has been thanked in the meeting for their invitation, Mr. McMillan in a few well chosen words suggested some expressions of the visitors' approval be given and a vote of thanks was extended with such a hearty unanimity that there could be no doubt in the minds of any one but that all thoroughly enjoyed it.

Side Trips.

A portion of the party left the special at Toledo for the purpose of either going home or visiting other plants. Some of them visited Carey, Ohio, either that afternoon or the next forenoon to see a plant which had been installed by Byron Eldred. Another party, fifteen strong, went down to the plant of the Standard Lime Co., at Gibsonburg, to see the gas producer which had been installed there by the Duffs Patent Co., and were the guests of Mr. W. H. Bradley, of the Duffs Co. Another party visited this plant the next morning as the guests of W. H. Lauman, which inspected his hydrating arrangements. The Standard Lime Co.'s plant is a new one which has recently been completed to replace the one destroyed by fire last fall, and no expense or pains has been spared in an effort to make it one of the most modern and up-to-date plants, and those who visited this plant were much surprised and Mr. Lauman received many compliments from all sides.

The Scioto Lime and Stone Co., Delaware, Ohio, is installing a new piece of machinery at their plant called a "hydrating" machine, and is in the form of a cylinder, thirty feet long and seven feet in diameter. It is designed for use in mixing plaster, with a capacity of three cars a day. If this machine proves a success they intend to enter upon the manufacture of the product on a more extensive scale.



because it is one of the old time plants and has been modified from time to time in the best way possible under the circumstances. The hydrating plant was not shown as a model either, because the only space available for its location was not the most desirable in the world, and the people were taken there with a view to showing how the machine operated rather than to show a model equipment, it being the only one this company has at present within easy reach of Detroit.

Whether the visitors liked the system of hydrating shown here or not it did not hinder any one from realizing that the Clyde Iron Works was showing them a splendid time, and the expressions came from all sides and were universal that the Clyde Iron Works certainly were doing things up brown, and were royal good fellows no matter



Lime Manufacturers at Sugar Ridge, O., guests of Clyde Iron Works to see hydrating plant.

Very Successful Hydrating Plant.

BRADDOCK, Pa., July 26.—J. W. Cogley writes: "We are having great success with our new hydrating plant, and we are selling all that we can make. We think we have the finest lime on the market, as everybody that has used it likes it better than anything they have ever had."

Mr. Wm. Urschel, of the Woodville White Lime Co., Woodville, Ohio, reports that they have completed four new kilns in addition to the six now in operation.

The firm of Greenley and Strand, Portland, Oregon, are making preparations for the manufacture of lime on the farm of Hon. Plinn Cooper, seven miles south of Roseburg.

A meeting of the stockholders of the Eakley-Wyand Lime Co., Hagerstown, Md., met at the office of President Webster H. Wyand recently, and voted an increase of the capital stock from \$5,000.00 to \$10,000.00.

The O'Connell Lime and Marble Dust Co., Eastchester, Westchester County, N. Y., has been incorporated with a capital stock of \$50,000.00, with the following directors: W. T. Hooke, James O'Connell and W. A. Schumacher, of New York City.

The Hydraulic Lime Co., with Rothenberger & Zellars, proprietors, at Reading, Pa., is said to be burning a kiln of lime at his plant at Leis's Bridge. This concern has quite a number of orders on hand, and business seems to be good with them.

One of the pioneers of the lime business is Mr. Wm. B. Irvine, of the Knickerbocker Lime Co., Philadelphia, Pa. He was right on hand at all the sessions of the lime meeting at Detroit, accompanied by Mr. J. B. Holmes, of J. B. King & Co., Philadelphia, Pa.

Finch, Pruyn & Co., of Queensbury, Warren County, N. Y., have been incorporated recently with a capital stock of \$3,000,000.00, with the following directors: C. R. Finch, J. T. Finch, Maurice Hoopes, Howard H. Pruyn, O. F. Root and C. B. Thompson, of Glens Falls.

When the Prohibition party wanted a candidate for vice-president they had to have either a lime man or a lumberman. The lime man they chose is A. A. Stevens, of the American Lime & Stone Co., Tyrone, Pa. He came from a good old prohibition county, as the writer can testify, as he was born there.

The Blue Ridge Lime Co., Asheville, N. C., has been incorporated with a capital stock of \$25,000.00, and will erect suitable buildings and install the best lime making machinery. The directors and officers of the company were well known men of Asheville and are as follows: Dr. R. H. Reeves, president; S. Lipinsky, vice-president; A. M. Field, secretary and treasurer.

The Tennessee Hydrated Lime Co., Nashville, Tenn., has been capitalized at \$25,000.00, and has just completed and put into operation its plant for the manufacture of hydrated lime under the Dodge patent. The company owns the Tennessee rights for this patent. The officers of the company are: J. J. Ferguson, president, and J. M. Wilkerson, secretary and treasurer. They have an inexhaustible supply of limestone at hand and the best shipping facilities.

The friends of Byron Eldred, the expert on lime kiln building, and the application of up-to-date methods of burning lime, will be pleased to learn that he is a full fledged lime manufacturer, being the president of a lime company in Colorado, and also being interested in the lime business in Ohio. His headquarters are now in the Lincoln Trust Building, 1206 Broadway, New York City, where the mechanical engineer of the new concern handles his systems for estimating the cost of producing lime, ore and other products.

Reports from Cheyenne, Wyoming, state that A. D. Kelley, I. S. Bartlett and Birdie Pollard, all of that city, have discovered a mammoth deposit of pure limestone near Hartville and are developing the property. The product is said to be 99 per cent. pure lime which is well adapted for use in sugar-beet factories for refining sugar. A contract for 4,000 tons has been given the company by the Colorado Beet-Sugar Co., which recently used a lot of it and pronounces it the finest limestone ever used by them. The product is also adapted for the manufacture of Portland cement, and these gentlemen are also considering the erection of a cement plant at their quarries.

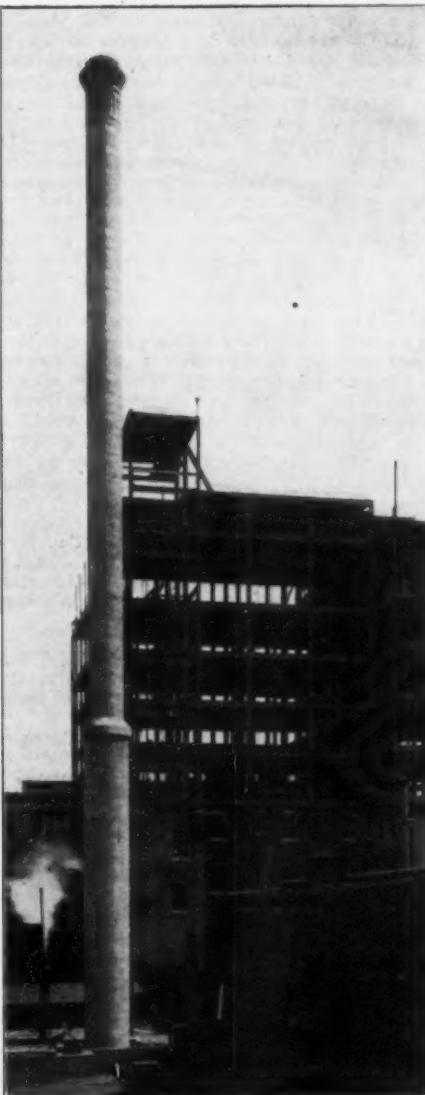
Artificial Stone

A New Kind of Chimney Construction.

We illustrate a photograph of the chimney at Seelbach's new hotel, Louisville, Ky., built entirely of cement, sand and steel, under the Weber patents, for Joseph McWilliams & Co., engineers, of Louisville, by the Weber Steel-Concrete Chimney Co., 410 and 411 Ashland Boulevard, Chicago, Ill.

The height of the chimney is 176 feet 7 inches, and inside diameter 4 feet 6 inches:—Up to the offset shown in the picture the chimney consists of two separate shells, the outside being six inches thick and the inner 4 inches, separated by an air space of four inches—above the offset for a length of ninety-four feet, it consists of a single shell five inches thick. The steel reinforcement of the chimney consists of T steel bars of different sizes, and there are about 18,000 pounds of steel used in its construction, forming a vertical reinforcement by means of a heavier kind of these bars which are encircled again at short intervals by horizontal rings bent of T steel of a smaller size.

The steel reinforcement is designed to be strong enough to take up all the bending forces caused of wind pressure and the chimney is guaranteed to withstand a pressure of 100 miles per hour:—even at this pressure the factor of safety would be



Seelbach's Hotel, Louisville, Ky.

4—which indicates the structure would be safe in every respect.

This style of chimney will, without doubt, in a short time replace brick and steel, almost entirely, as its advantages are very great without the consideration of price which is said to be somewhat less than brick.

Some of the advantages of these chimneys over those of brick are:

First. They take less room for erection, and space is money, especially in modern steel plants.

Second. They are practically indestructible—gaining in strength the longer they stand.

Third. They are perfectly smooth inside and having a uniform inside diameter are of the highest working capacity.

Fourth. They are absolutely air-tight and withstand a higher wind pressure.

Fifth. They need no painting or repainting and are practically everlasting.

One of the remarkable features of this chimney is the proportion between the inside diameter and height, being 1 to 40.

The Weber Steel-Concrete Co. makes a specialty of erecting this kind of chimney all over the world. They now have under construction for the Burt Portland Cement Co., at Bellevue, Mich., what will be the tallest steel-concrete chimney in the world, after completion, and we hope to be able to give our readers some additional information when we receive further particulars.

Carl Weber, the patentee, is the president and general manager of the company, and Richard A. Steen, secretary and treasurer.

Sand-Lime Brick Plant Nearing Completion.

The Diamond Stone Brick Company is rushing to completion its plant at Wilmington, Delaware, for the manufacture of sand-lime brick, and expects to begin operations within the next two or three weeks.

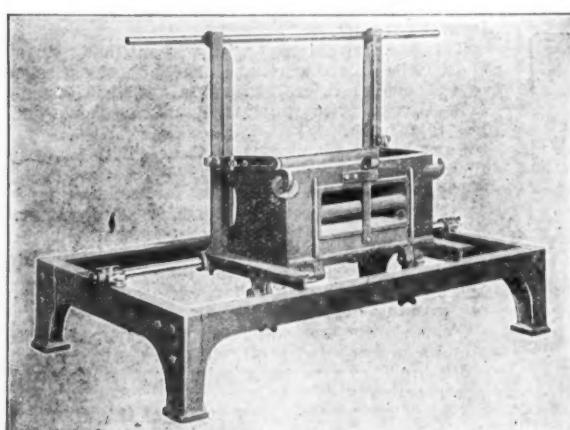
These brick are manufactured from the highest grade of silica sand and pure calcium lime. They will stand a crushing strain greater than any clay brick, and a greater degree of temperature; and the manufacturers guarantee a water absorption of less than twelve per cent. These brick improve with age in the atmosphere or under water, and will not crack or disintegrate by freezing. They can be furnished of any color or shade desired. The natural color, however, is a beautiful soft gray, resembling Indiana limestone or sandstone.

The Charles Warner Company, of Philadelphia, Pa., and Wilmington, Del., will supply the raw materials for manufacturing the brick, and will have the general sales agency, delivering by water to New York, Philadelphia, Trenton and Camden, N. J., Baltimore, Wilmington, Norfolk, and Portsmouth, with first-class railroad facilities besides.

The Rockford Concrete Construction Co. has put up factory buildings 50x100, part of it three stories high, with screening and separating devices for sand and gravel by machinery. They have one of the finest quality of sand pits in this section, owning five acres of high banks of clean sand. "We are manufacturing cement building stone, on the Normandin Block Machine, and turning out splendid work. Orders are coming in well and we are very busy. Our product pleases. We are manufacturing fence posts, also hitching posts, curb, chimney blocks, etc. Geo. D. Roper, president of the Eclipse Gas Stone Co., is president of this company, and W. W. Sawyer, secretary of the Rock Wall Plaster Co., of Rockford, Ill., is secretary of the company.

The Union Lumber Co., New Philadelphia, Ohio, are operating a cement building block manufacturer, and turning out some fine specimens of stone. They are erecting a number of fine dwellings and houses costing from \$3,500.00 to \$8,000.00 each, now nearing completion, which present a very fine appearance and give entire satisfaction.

The Newark Artificial Stone and Plaster Co., instead of the Dresden Hard Wall Plaster Co., of Newark, Ohio, is the name of the reorganized company which has been incorporated with a capital stock of \$25,000.00, removing their offices from Dresden, Ohio, to Newark, Ohio. The new company will continue the manufacture of hard wall plaster as heretofore, and will add a department for the manufacture of artificial stone, which they will operate on an extensive scale. The personnel of the company are: C. E. Cochran, John McNamea, G. R. Hackney and B. F. McDonald.



HERCULES CEMENT BLOCK MACHINE.

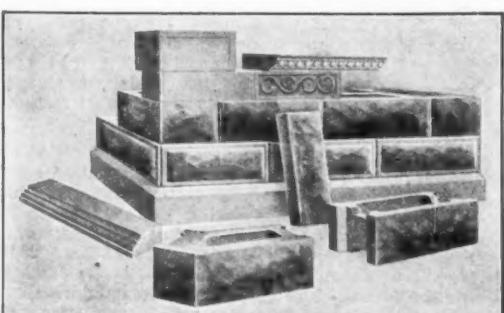
Another Cement Block Machine.

This machine works on a materially different principle from most of the others. It is called the Hercules Cement Stone Machine, and is manufactured by the Century Cement Co., Rochester, N. Y.

Space will not permit mentioning more than the principal features of this machine. One of the principal points in this machine is that during the process of manufacture, the face of the block is on the bottom and not on the side. Aside from this, the face of the block being on the bottom, it is very easy to make a veneered block by using richer material on the bottom, and filling out with much coarser concrete than would be permissible were the same mixture on the face of the block. It is claimed by the manufacturers that in this way a block which is entirely impervious to moisture is made, and that water will stand on its surface until it evaporates. The manufacturers of this machine also state that it has a very wide range of work making both hollow and solid blocks. A few of the things made on this machine are enumerated as follows: water tables, window sills, window caps, door sills, door caps, coping, curbing, steps, ornamental work, up to a length of five feet. Another feature of this machine different from any others is that when in operation it sits very close to the ground, which permits of easy filling and easy tamping. Seventy doors of different sizes go with the machine so that the operator always has a great many designs at his disposal.

This company has issued a little booklet giving out information of value to those who are interested in concrete work of all sorts. It contains formulas for colored brick and block as well as directions how to mix and use cement. This booklet is free for the asking, if you will write to the Century Cement Co., Rochester, N. Y.

The National Concrete Construction Co., Louisville, Ky., Mr. J. B. Ohligschlager, manager, one of the most active promoters of concrete work of all sorts, is out with a card setting forth some of the uses of concrete as well as some of the reasons why it should be used. Among those uses mentioned are for floors, with steel reinforcement, dam building, sewers, sidewalks, ornaments, bridges, culverts, pagodas, and the manufacture of hollow and solid building blocks. The only thing left out is cement roofing tile and cement chimneys.



Product of the Hercules Cement Block Machine.

"Home of Block Machines."

If any one asks you what they make in Jackson, Michigan, promptly tell them "Concrete blocks and concrete mixing machinery." This seems to be the home of the cement block machine. There are a number of firms there who manufacture them, Miller & Huntington, South Hill Street, have a collapsible core machine. Still further down is the Brady Cement Stone Machine Co., who manufacture a very elaborate machine with wide scope as to shape and size of product. In the same street will be found Helling & Booth Co., manufacturing the Coltrin patents. Recently the Knickerbocker Co. has taken up the manufacture of a very simple concrete mixer, as well as the making of block machines under some of Coltrin's patents. Jackson is also the home of the Simplex block machine, Corey & Miles have recently gotten into the market with a machine which has great latitude as to size and shape of blocks. The machine seems to be well liked

wherever used. There is a report afloat in Jackson that George Umstead, Oakdale Ave., who owns a large gravel bed, will have an old-fashioned competitive test of all the concrete block machines that care to enter with a view to purchasing a number of machines and entering the business. It will be similar to an old-fashioned husking bee and all machines will be compelled to work under the same conditions. The prize will probably be the sale of some machines. It is probable that as soon as the arrangements and conditions under which the machines are to be operated can be devised so as to do justice to all, that all of the block machine men who desire can enter their machines for the contest.

Believes in Concrete Construction.

Union City, Mich., the home of the Peerless Portland Cement Co., not only believes in concrete construction, but believes in manufacturing their own machines. The Michigan Cement Block Machine Co., has been for some time manufacturing a seven mould machine which has been giving excellent satisfaction. This company has succeeded in getting one of the finest mold patterns for rock face work which we have ever seen. The lines are so sharp on the finished block that at a short distance you readily think that the block has been molded solid and rock faced afterward by hand. This is a hand tamp machine and makes block of a small size, either solid or hollow, as desired. There are a number of very handsome residences in Union City built from block made by this machine, among which is that of A. Lundteigen, superintendent of the Peerless Portland Cement Co. Another structure which is worthy of note is a coal dust collector and stack erected by the Peerless Portland Cement Co. The stack is circular and tapers from bottom to top. The block for the entire chimney was made on one adjustable mold machine and is a handsome piece of work.

The Brooklyn-Queens Cement Stone Co., New York City, has been incorporated with a capital stock of \$10,200.00, with the following directors: C. W. Blue, H. K. Stevens and John Simken, of New York City.

The Mississippi Stone Manufacturing Co., Greenville, Miss., has been incorporated with a capital stock of \$20,000.00, to manufacture artificial stone.

The New York Artificial Stone and Machine Co., Brooklyn, N. Y., has been incorporated with a capital stock of \$30,000.00, with the following directors: F. F. Wilson, John Mulstein and P. F. Duff, of Brooklyn.

The New York Cement Block Co., New York City, has been incorporated with a capital stock of \$100,000.00, with the following directors: W. F. Thompson and J. J. Burbidge, of New York City and Katherine Collinan, Elizabeth, New Jersey.

The Cosmic Cement, Tile and Stone Co., Baltimore, Md., has been incorporated by Jas. F. Morrison, Pierce B. Wilson, Jr., Morrill N. Packard, S. H. Wilkins and Duncan MacCallum. This firm will deal in stone tiles, cement, etc.

The Kankakee Pressed Stone Co., Kankakee, Ill., has been formally organized, and the following officers were elected: R. G. Risser, president; Walter Smith, vice-president, and George Carson, secretary.

The Portland Hydraulic Stone Co., Portland, Ore., has been incorporated with a capital stock of \$10,000.00, by Herman D. Graden, W. A. Currie and Bambord Rodd. This company expects to deal in building materials, construct sidewalks, crosswalks, etc.

The Morris Hollow Concrete Block and Construction Co., Granite City, Ill., has been incorporated with a capital stock of \$5,000.00, to manufacture hollow concrete blocks. The incorporators are: A. W. Morris, Ralph A. Morris and Vernon S. Morris.

Messrs. J. McKeen Young and H. T. Ford, of Easton, Pa., have recently organized the Easton Concrete Block Co., and are engaged in the manufacture of concrete building stone at their works at Phillipsburg. Their office is located at 604 Drake Building.

The Iowa Hollow Wall and Concrete Co., has been incorporated with principal place of business at Council Bluffs, Iowa, with a capital stock of \$100,000.00. The incorporators are: Norman H. Hatch, Harvey R. Hatch, Robert M. Hatch, H. D. Watson and W. J. Scott.

The Sebring Stone Co., Sebring, Ohio, has been organized with a capital stock of \$5,000.00. The men interested in this new enterprise are: F. D. Shewell, Charles Israel and George E. Frank A. and E. H. Sebring. This company expects to manufacture artificial stone.



House of A. Lundteigen, Union City, Mich., Built of Concrete Blocks.

The Federal Granite Brick Co., Scranton, Pa., is a newly incorporated concern manufacturing sand-lime brick at its plant on South Washington Street. This plant has a capacity of 20,000 brick in ten hours. The officers of the company are: W. L. Schlager, president; D. B. Hand, vice president; R. N. LaBar, secretary and M. H. Holgate, treasurer.

The Montauk Building Block Co. is a new corporation at Riverhead, N. Y., with a capital stock of \$3,000.00. Its principal place of business is at East Hampton. This company will manufacture building blocks of cement. The directors are: Isaac Meyer, East Hampton; Graham G. Hallock, Sag Harbor, and Frederick C. Raynor, West Hampton, and others.

The Waynesboro Hydraulic Stone Co., Waynesboro, Pa., will in a short time have their plant under roof, and the installation of machinery completed. The company expect to begin on experimental work at once and as soon as possible get ready for marketing curbstones, door and window sills, paving blocks and a large quantity of other blocks and materials for building purposes. They expect to make cement building blocks a specialty.

The Concordia Hydraulic Stone and Brick Co., Concordia, Kans., has been organized with a capital stock of \$7,000.00. The firm will manufacture artificial stone from shale and cement and machinery for this purpose has already been ordered. A number of the best business men of the city are the incorporators, and the officers of the company are: C. R. Scott, president; T. J. McCue, secretary, and C. A. Betourney, treasurer.

Another Advance in Artificial Stone.

For ages science has been puzzled over the marvelous construction of the Egyptian people, whose stone work has withstood the ravages of time better than any known material in the world. It has been reasoned that the huge blocks of stone forming the massive high pyramids were too large to have been placed in position in such sizes indicated, for at that day and time no machinery was known of the order necessary to put the great stone in place. Of recent years, scientists have pretty generally concluded that the immense pyramids were constructed of artificial stone, and moulded into shape in pretty much the same order that concrete work is done to-day. The Egyptian stone, however, seems to be a lost art and whether mankind will ever be able to reproduce it, time alone can tell.

It will be of interest to the readers of *Rock Products* to know that the National Art Stone Co., of Chester, Pa., is now manufacturing an artificial stone, which promises results, difficult to measure at this time. The process is the invention of J. Franklin Levering, a constructing engineer and chemist of note. It required many years of study and experimenting on the part of Mr. Levering to bring the material to its present state of perfection. How well he has succeeded, only the most scientific and practical men can attest. By the process, practically every known stone used in the building art can be imitated with a degree of sameness as to be scarcely detected, even under a glass. The report of tests, made under the direction of the United States War Department, at the Watertown Arsenal, Watertown, Mass., will enable the readers of *Rock Products* to form some idea of the value of this material for ornamental and structural work.

The tests were made under date of June 7, last, by J. MacNutt, Esq., Major, Ord. Dept., U. S. A., Commanding, and is known as "test No. 13062." The pieces were prepared in the form of brick, and the tests were made with the United States testing machine, capacity 800,000 pounds. To quote from the report itself, the following may not be out of place:

"Samples were in two parts when received for testing, connected with a paper label in each case. One part was tested in the state as received, the other part of the brick was exposed to a wood fire for a period of two hours. The pieces were cooled in the air, and 20 hours later tested.

"Compressed surface faced with plaster of Paris to secure even bearing in the testing machine."

Now then, material made February 25, 1904, of 97-100 sand and 3-100 chemicals, and measuring 2.06x2.10x3.95 ins. and having a sectional area of 8.30 square in., stood a total strength of 30,200 pounds, or 3,640 pounds to the square inch. A like piece of material, after being taken from the fire, showed an ultimate strength of 15,100 pounds, or 1,250 pounds to the square inch.

Mr. Levering, the president of the company, in his report to the Board of Directors, says that he regards the test as most remarkable, from the fact that the pieces tested were frozen solid in the open air twenty-four hours after they were made and allowed to remain out in the weather all winter without any attention whatever, until the test was made.

It should be understood that the process requires that material be treated for at least twenty days in order to produce the best results. At the present time, blocks in the shape of 4 in. cubes, are being prepared for another government test, and the company looks for very much greater results from the thoroughly cured product.

As a further evidence of the value of the material made by this company, The Franklin Institute, of Philadelphia, Pa., has taken up the matter, as its Committee on Science and the Arts at its meeting, held on the evening of June 21, approved as a proper subject for investigation, the company's application for an investigation of its artificial stone. As the Committee has now adjourned until September it will be impossible that a report on the subject can be made before the September meeting, to be held on the first Wednesday of that month. In the meantime, however, a sub-committee will be appointed to proceed with the investigation and its requirements in respect to specimens for tests compiled with.

The National Art Stone Co. courts the closest investigation of its product by any one interested. The members believe that they have a good article and that the product will serve a long felt want in the building art.

Will Make Concrete Building Blocks.

WAYNESBORO, Pa., June 24.—The Waynesboro Hydraulic Stone Co. write: "The foundation of our plant is completed and we are daily expecting the arrival of our machinery with which we intend to commence the manufacture of hollow concrete building blocks. Mr. J. H. Gehr, president of the company, has been a subscriber for *Rock Products* for some time and likes the journal very much. He is also proprietor of the Eclipse Wall Plaster Co., which is doing a fair local trade."

The Rockford (Ill.) Stone Manufacturing Co. has been rushed with orders recently, being unable to supply the demands for their new artificial stone.

Reports from Clear Lake, Iowa, state that the Clear Lake Cement Stone Co. is finding a ready sale for its product, and are shipping a number of cars each week beside their home demand.

The Rockford Concrete Construction Co., Rockford, Ill., are manufacturing fine artificial building stone for which they have a large number of orders now in hand.

The Milwaukee Cement Block Co., Detroit, Mich., has been incorporated with a capital stock of \$5,000.00, by Joseph P. Schottler, John L. Wessolowski and Frank L. Fus.

The St. Charles Hollow Concrete Co., St. Louis, Mo., has filed articles of incorporation with a capital stock of \$10,000.00. The incorporators are: Hector Temi, John W. Moore, and George H. Zollmann.

The M. H. Tuggle Concrete and Hollow Block Construction Co. has been organized at Columbus, Ga., for the purpose of manufacturing hollow brick, sewer tile and drain tile. The capital stock is \$5,000.00.

The Muscatine Concrete and Paving Co., Muscatine, Iowa, manufacture and deal in cement work of all kinds and do a good business. The principal parties interested in this concern are A. Kemble and C. A. Hamilton, of that city.

The French Broad Granite Co., Asheville, N. C. has purchased the necessary machinery for the manufacture of sand-lime brick and tile to be used extensively for building purposes. This brick has come very much into use throughout the country.

The American Brick, Cement and Tiling Co., East Orange, N. J., has been incorporated with a capital stock of \$500,000.00, to deal in and manufacture cement, limestone, etc. The incorporators are: L. Sackman, Heinrich Mieck and Alfred Hamilton.

The Gem City Concrete Block Co., Dayton, Ohio, has been incorporated with a capital stock of \$10,000.00, with the following incorporators: C. E. Clark, J. B. Sliders, T. Stephens, Wallace Berryhill and F. Meeker. They will manufacture concrete building blocks.

The Ironton Artificial Stone Co., Ironton, Ohio, has been incorporated with a capital stock of \$15,000.00, with the following incorporators: F. P. Horschel, John D. Hebling, Harry Wileman, George Dressell and Edgar T. Belcher. The stone manufactured by this concern will be used principally for building purposes, and they expect to turn it out in large quantities.

The Hamilton Artificial Stone Co., Hamilton, Ohio, which was recently incorporated, has elected the following officers: Chief of Police Jacob Sipp, president; M. W. Goodman, vice president, and David Pierce, secretary and treasurer, with Charles Beard as general manager. The new machines have been received and will be placed in position for immediate operation.

Reports from Davenport, Iowa, state that the Davenport Cement Sidewalk Co. has been organized and is ready for business. This firm contemplates manufacturing cement and granitoid sidewalks, cement blocks, steps and wall copings, cement footings, retaining walls and granitoid or cement floors. The office of the company is located in Room 1, Granitoid Building.

The San Jose Cement Block Co., New Bedford, Mass., has been organized with a capital stock of \$25,000.00 by: A. H. Michner, J. H. Kircher, W. H. Rogers, J. M. Graham, F. H. Bloomingdale and A. J. Crapo. The new company proposes to manufacture and deal in solid and hollow concrete building blocks composed of concrete. Also lumber, shingles, lathes and a general line of building material and supplies.

The Lightened Farmer Stone Man.

Another inquiry that brought out some pleasant information to machinery salesmen: It appears that there is a man who made so much money out of the patent medicine business that he didn't know what to do with it, so he bought some land with it, Lord knows how much, but you will know it was a lot from the fact that he has three barns capable of holding a hundred and ten horses each, and lays his plans to plow a hundred acres a day when he is feeling well. When he wanted to clean the stone off his land, he would take twenty-five men and take a swath that would insure the land well cleaned. This stone was gathered and piled for road making. He made inquiries for machinery of a salesman, and he went to the grounds and spent the day looking after stock and other facilities of this patent-medicine-farmer-stone-man, but didn't land the order because he borrowed a crusher from the township trustees, but it was pleasant for the salesman, because he learned more about up-to-date farming than he ever knew before. Thus stone men with farms, when they are able to own a patent medicine concern, can also do it in this fancy manner if they only have good luck.

We are glad to note that one of our old friends, Mr. E. S. Hotchkiss, of the Graham & Hotchkiss Stone Co., Nineteenth and South Lincoln Streets, Chicago, Ill., has gone into the artificial stone business. Speaking of the business Mr. Hotchkiss said: "We are putting together window sills, stone covers (for yard sewers), and railroad blocks, besides curbing, etc., in a different manner from any of your subscribers or advertisers. Good material well mixed and densely put together in proper proportions makes a stone equal to nature. The pneumatic tamping process produces a density, on say two ton stone, equal to about 7,000 pounds hydraulic pressure per square inch.

An Inquiry.

There was a sugar beet man who thought he had nothing to do, and knowing that the township officers wanted to buy some crushed stone for road making, made inquiries of two or three of the crusher manufacturers for a machine. He didn't know much what he wanted when he inquired, but there happened to be a lull with two manufacturers. They made some plans, and concluded that they wanted that order, and two of the men started out while the wintry blasts were blowing.

They looked up the town on a map showing that it had forty-six inhabitants, and knowing that the tains didn't run very often, they went to a nearby town to be near the "seat of war." The next morning they were both up bright and early, and lo and behold! the two competitive crusher men ate breakfast together. They inquired of each other as to where they were going, and after a little parleying, it came out that they were going to the same place, and when they got ready to start they looked out and a real, live blizzard was doing business. They could hardly see the station when they got off the train, and after a good deal of trouble and offer of a little money, they were delivered two miles out in the country through this snow-storm to the prospective customer.

Each in turn applied to the gentleman for information, but it was found out that he was not sure whether he would buy or not, and when he did buy, when he wanted to pay, and other matters which assured the gentlemen that the matter would be a stand-off of at least a period of a few months; and so they, after much difficulty, got back to civilization again, and each in turn agreed that it was a pretty long jump for such a small prospective order.

From returns, we have not heard who sold the machine, or whether it was sold or not, but this demonstrates one of the trials of manufacturers who desire to follow up their inquiries and look after all orders desirable. The present difficulty of the situation is that there is a free-for-all fight when they get there, and there is no profit when they get it after the difficulty of running it down, which of course is all the better for the stone people, but it is a question whether it would not be a good business if they were friendly, instead of running after each other and landing an order, and it would cut out a lot of this extra expense of running after them and give the buyer the advantage of it.

ROCK PRODUCTS.

Cement.**The Cement Situation.**

It is very probable at the present time that cement prices have reached the bottom. They are not likely to go any further. On the other hand, conditions are such that there is not likely to be any very material advance in the near future.

Some cement manufacturers are working today at an actual loss. Cement should be worth at least 20 per cent. more than it is to-day, and the normal price would be from twenty-five to thirty-five per cent. in advance of present prices.

At the present time there is no material over-production, that is, the amount of cement which is being made to-day is just about equal to the consumption. In the larger centers there is considerable cement stored, not only the factories, but the dealers are fairly well filled up with stocks. Under normal building conditions the capacity of every mill will be needed to supply the demand. Here are a great many buildings which will be started, just as soon as labor conditions change so that the contractors feel sure that they can put up a building without interruption from strikes and kindred troubles. They must also be sure that they can build at an approximately estimated cost, and not be liable to have a job tied up, involving millions of investment, or pay an enormous premium for having work done.

The above statement briefly summed up means this: watch the labor situation, and look for a material advance in Portland cement, especially if a healthy labor situation develops.

The Way the Wind is Blowing.

The latest statement of imports and exports of cement tell the story of the decline, and what really amounts to a collapse of the foreign cement trade in this country. In May of this year only 78,851 barrels were imported against 228,456 for May of last year, and the June figures will likely show a more striking decline. In the meantime there is a constant increase in exports, May of this year showing 55,385 barrels as compared with 29,109 barrels in May of last year. American cement has practically monopolized the domestic market, and it is slowly gaining a foothold in the foreign fields. A year ago imports were ten times as great as exports. In May exports were within 23,000 barrels of imports. If the present ratio is maintained for another year, the imports will have closed entirely and a considerable foreign trade in the domestic product will have been established.

Discussing a Mammoth Job.

Cement and stone are at war over the construction of the New York State Canal locks. Col. Thomas W. Symons, a member of the advisory board of consulting engineers of the 1,000-ton barge canal project, says that the answer of the engineers to the demand of stonemasons, stone-masons and bricklayers, in reference to the construction of canal locks was to be found in the specifications now being prepared and which will call for the construction of cement locks. The stonemasons, stone-masons and bricklayers have demanded that the locks be built of stone. Col. Symons says that cement is better than stone, and that if stone is used it will increase the cost of the canal by several millions of dollars. This means cement will be used.

Chairman Bond of the advisory board of consulting engineers, Col. Symons and E. L. Correll, members of the board, have just returned from Trent Valley, Canada, where they inspected the largest lift lock in the world, a lock with a lift of sixty-five feet, which has just been completed and which is of cement construction. They find the stone parts of the Trent Valley canal leaky and defective, while the cement portions could not be improved.

Imports of Portland, Roman and Other Hydraulic Cements.

COUNTRY	MONTH OF MAY, 1903		11 MONTHS ENDING MAY, 1903	
	BBLS. 380	VALUE	BBLS. 380	VALUE
United Kingdom.....	2,503	\$ 3,433 00	107,455	\$ 133,701 00
Belgium.....	60,820	70,511 00	836,176	935,357 00
France.....	3	5 00	13,873	21,800 00
Germany.....	158,909	219,787 00	1,657,349	2,081,745 00
Other Europe.....	5,110	5,803 00	25,511	28,310 00
British N. America.....	1,020	1,883 00	4,221	8,761 00
Other Countries.....	407	3 00	3,754	5,587 00
Totals.....	228,456	\$301,230 00	2,648,339	\$3,215,261 00

EXPORTS.

May, 1903..... 29,109 barrels, value \$ 48,732 00
Eleven months ending May, 1903..... 245,977 barrels, value 381,612 00

Imports of Portland, Roman and Other Hydraulic Cements.

COUNTRY	MONTH OF MAY, 1904		11 MONTHS ENDING MAY, 1904	
	BBLS. 380	VALUE	BBLS. 380	VALUE
United Kingdom.....	713	\$ 1,117 00	116,263	\$ 140,873 00
Belgium.....	14,733	14,943 00	466,910	532,583 00
France.....	1,373	2,283 00	28,794	37,822 00
Germany.....	60,860	80,820 00	921,089	1,193,064 00
Other Europe.....	1	1 00	14,005	14,591 00
British N. America.....	110	206 00	2,454	4,363 00
Other Countries.....	1,061	1,571 00	9,653	14,846 00
Totals.....	78,851	\$100,941 00	1,559,163	\$1,938,152 00

EXPORTS.

May, 1904..... 55,385 barrels, value \$ 72,166 00
Eleven months ending May, 1904..... 304,701 barrels, value 444,640 00

Imports decreased in May, 1904, as compared with May, 1903, 149,605 barrels, valued at \$200,605.00; and, for the eleven months ending May, 1904, as compared with same eleven months previous to May, 1903, 1,089,171 barrels, valued at \$929,993.00.

Exports increased in May, 1904, as compared with May, 1903, 26,276 barrels, valued at \$23,434.00; and for the eleven months ending May, 1904, as compared with the same eleven months previous to May, 1903, 58,724 barrels, valued at \$63,028.00.

The Standard Portland Cement Co., Charlevoix, Mich., will build a cement factory on land donated by the village at a cost of \$450,000.00.

The Southwestern Cement Co., of Ferguson, in Blaine County, Texas, has been incorporated with a capital stock of \$200,000.00. The incorporators are: George Newer, J. B. Scott and E. A. Cox.

The Crescent Cement Co., Chicago, Ill., has been incorporated with a capital stock of \$50,000.00, for manufacturing cement by George William, Frank W. Welch and Sidney B. Merrill.

It is stated that the Consolidated Rosendale Cement Co., Kingston, N. Y., will soon manufacture heading in its Whiteport Mill. The Newark and Rosendale Cement Co. formerly owned this mill.

Pennsylvania capitalists are very busy erecting a large cement works just a short distance above West Point, Ky., on the Henderson Route. The materials used for this purpose are obtained from Meade and Breckenridge counties and the immediate surroundings. Thirty houses made of concrete are being constructed at that point.

The Eagle Portland Cement Co., Eagle, Wis., expect to build a mill in the near future that will cost in the neighborhood of \$300,000.00. This concern was recently incorporated with a capital stock of \$600,000.00, and has between 600 and 700 acres of land which had been purchased by the incorporators. They expect to produce 2,000 barrels of cement a day. The incorporators are: Lawrence Fardy, Sr., W. H. Lindwurm and James E. DeLauer.

Reports from Bay City, Mich., state that the Hecla Portland Cement and Coal Co. plant will likely resume operations, for it has recently been made public that former manager, U. R. Loranger has offered to advance all the money necessary to operate the plant under a general receivership. In case the plant cannot be made to run profitably under a receiver, he offers to place a forfeit of \$5,000.00 with the Clerk of the United States Court to be paid to the officers of the company.

Reports state that the Helderberg Cement Co., Albany, N. Y., has been awarded the contract for furnishing 50,000 barrels of cement for the new water side station on the East River, at New York City. The material must be delivered this season.

Constitution of Portland Cement.

There is still a great deal of energy being expended in efforts to definitely prove the constitution of Portland cement and the reactions which take place during hardening. W. Richter, in *Ton Industrie Zeitung*, after having spent much time in experiment, trying to produce proof to verify or disqualify the statements of others, concludes that there is no free lime in Portland cement, but that during the setting process there are two stages, or rather, the hydration or readjustment of the silicates during setting proceeds in two stages; the first consisting of the formation of the bisilicate and calcium hydroxide, and the reaction between these in the presence of water results in the formation of the mono-silicate and hydroxide. He was unable to combine more than three molecules of lime with one of silica.

Interesting Invention.

The Peerless Automatic Slurry Feeder Co., of Sandusky, O., of which Mr. C. C. Winters is manager, is organized for the purpose of manufacturing the machine which the name of the company indicates, recently invented by Jay Payne, of Sandusky, Ohio. The machine is now being tested at the Castalia Portland Cement Co.'s plant, at Castalia, Ohio, and to all appearances is giving the best of satisfaction. It is being operated on a kiln which is now producing more material than any of the much larger kilns, doing away with the services of two men formerly employed under the old process, and increasing the capacity of the output at least one-fifth when using the same amount of coal.

Slate.

NORTH WALES.

Account of New Quarrying Methods Now Being Introduced.

BY H. HUMPHRIS.

Member North England Institute Mining & Mechanical Engineers.

Member South Wales Institute Engineers.

(Begun in June Rock Products.)

In this new system the cost of packing should be no higher than the cost of loading only, in the old, as the cockmen's wages will not be so high per ton produced, and the cost of pulling it out, engineers, coal, etc., and labor for tipping, with nothing added for rubbish wagons, repairs to same and so on, will be at the lowest sixpence per ton, so that on this there is a clear gain of sixpence per ton on 7,459,477 tons, which equals £186,486/18/6. Thus the total saving effected is:

On slates	£712,500
On cross tunnels	15,350
On unroofing and freeing sides	119,000
On rubbish	186,486
Giving a total saving of	
£1,033,336	

Or thanks to the great amount saved, of good rock, and the amount saved in unproductive work, and in the matter of disposing of the waste, we have a net gain of nearly 100 per cent., or in other words, if on the old system the profits were 15 per cent. on the value produced, in this one they would be from 25 to 30 per cent.

An endeavor will now be made to give some account of the mine now being opened out and some idea of the system may be gathered from the accompanying sketches:

Story of Mine Now Being Opened.

The northeastern portion of the mine which is really the lower half of it, consists entirely of slate rock covered with about 30 feet of marl and a topping of peat. It has an underlay of hard, which has been bored into for a depth of 250 feet, but has never been penetrated.

The slate rock in this part of the estate is not of a very good quality near the surface, owing to the light clay covering which is not so good as the hard granite. The rock is crossed in some places by sparry veins, and it is, on the whole, a place that could not with advantage be opened out on the old or descending system.

The total amount of rock contained here is about 40,500,000 tons, and it can be divided into 16,000,000 tons of rock of the finest quality, that is the bottom portion, 12,000,000 tons of good quality, and 12,500,000 tons of an inferior quality, which it is proposed to leave unworked.

The plan of working having been decided upon a commencement was made at the latter end of the year 1898.

The inclined tunnel which has been driven at an inclination of 1 in 3.9 is 500 yards long and reaches a depth of 350 feet below the surface. A level extends from the foot of the incline to the foot of the mountain at a height of about 100 feet above the village of Cwm Penmachno, at the head of the Machno Valley. (See plan and section).

The level being at the lowest part ever to be worked, will drain off all the water, and will thereby effect a saving of at least £500 a year; probably much more than this, as the district is a very wet one and pumping is a very costly item at all the quarries in the district.

This drainage scheme is one that could not be effected on the old system of working, owing to the fact that it is a descending one.

As it is necessary in this system to follow up the dip of the vein, the tunnel and incline tunnel have been driven along the edge of the northern boundary, in a straight line, and the workings will proceed to the southern boundary.

Driving the Tunnel and Inclined Tunnel.

A commencement was first made at the inclined tunnel, but to expedite the work it was decided to commence the level at the other end, at the foot of the mountain.

The first question to be settled was that of power to raise the debris from the incline.

A powerful winding engine was at work at a distance of 150 yards from the point where the sinking was commenced, but set at an incline of about 45 degrees to the tunnel; to make this do the duty required a head gear and slew pulley were fitted for diverting the winding rope into the desired direction.

The first work was in an open cutting through the marl and surface clay for about 60 yards, and then the tunneling was commenced still in the clay.

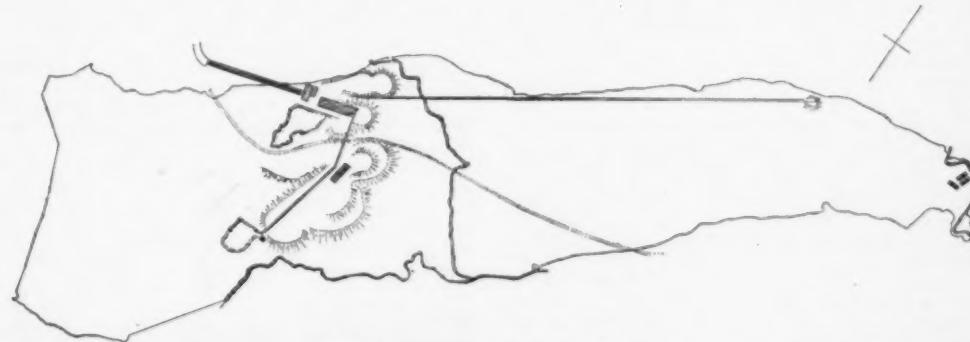
As the tunnel was advanced it was arched with sawn ends from the dressing sheds, and for a time everything proceeded in a satisfactory manner, but owing to the soft and shifting nature of the ground the arching ere long collapsed.

Timbering was then tried, but without success as it was constantly shifting. To overcome the difficulty and make the job a lasting one, the outer shells of some old boilers were procured (7 ft. 6 inches in diameter), and after being well braced together, they were fixed in place in the inclined tunnel.

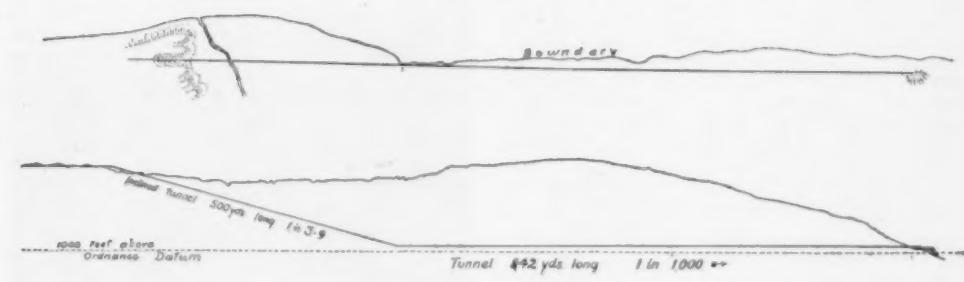
They have answered their purpose remarkably well and during the last 5 years no further difficulty has been experienced with them, and they have been favorably commented upon by engineers from different parts who have visited the tunnel and works.

As the work advanced in the tunnel the ground became firmer and timbering became possible. Trouble was next met with in the shape of driving into the site of an old well. Here the ground was continually pouring in and timbers and everything were completely swallowed up. In the end the place ran dry, leaving a hole through to the surface, which on top measured 30 feet in diameter. Rock was soon reached when timbering became no longer necessary.

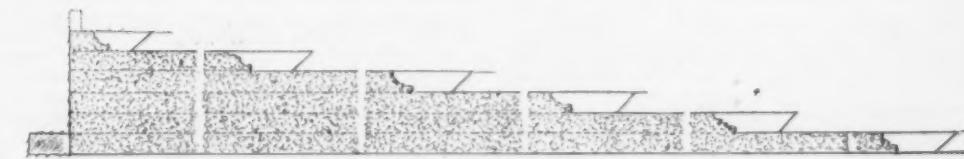
(Concluded next month.)



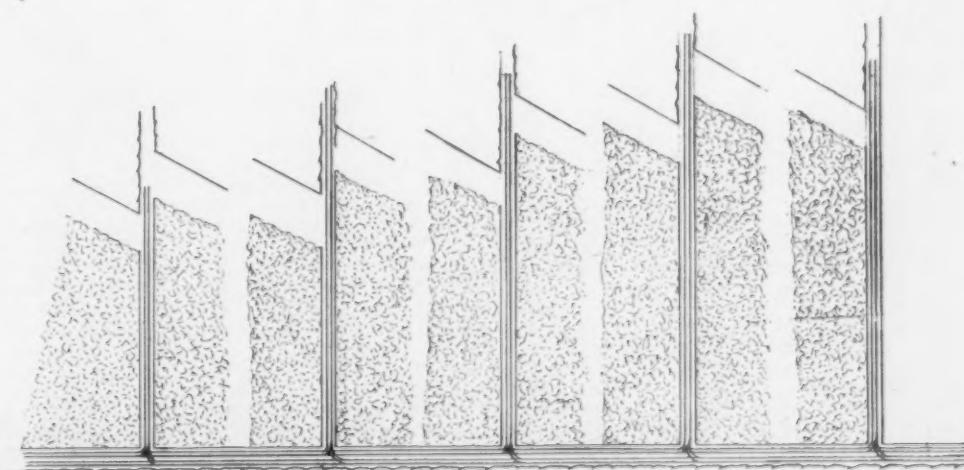
Plan of Quarry Showing Position of Tunnels.



Plan and Section of Tunnel.



Section of Mode of Working.



Plan of Mode of Working, Showing Waste Stacked in.

The Great Bangor Vein.

Mr. C. R. Lippmann, of the American Slate Co., Bangor, Pa., takes us to task for the article which appeared in our July paper, in which the printers left out a line and made the article read as if we had overlooked the slate producing sections of Pennsylvania, at Bangor, Pen Argyle and Slatington, which for so long a time has furnished almost 75 per cent. of all the slate which has been used for roofing purposes, and while there are a few deposits of slate which by their nature render it more sought after for special purposes, the great Bangor vein of slate furnishes the largest area for commercial purposes that has yet been discovered. In another part of his letter he tells of the erection by the American Slate Co., at their Bangor quarry, of what will be the largest and best equipped mill in this country, constructed of brick and steel. It will have the finest equipment of up-to-date machinery, specially to turn out extra large slabs, and with splendid shipping facilities. Arrangements will be made at the new plant so as to be able to produce and ship structural slate in the most severe winter weather regardless of the necessity of closing operations in the quarry. They claim to have the largest and deepest quarry in the United States, the slate vein of their property being one-third mile wide and almost 1,000 feet deep.

New England Slate Concern.

MONSON, ME., July 26.—F. J. Wilkins, superintendent of the Maine Slate Co., of Monson, writes: "You may say that we have just completed a slate mill and put in new machinery for the manufacture of roofing slate. Our slate rock is first class in every respect, and bids fair to be one of the best quarries in the United States."

Reports from Bangor, Pa., state that all the slate quarries have shut down on account of slackness in orders. This will effect 1,000 men who were employed in these quarries.

Samuel F. Culbertson, Albany, N. Y., is reported as having purchased the interest of Hugh G. Williams in the Williams & White Slate Co., and the company will now be known as the Baltimore Slate Co.

The Genuine Bangor Slate Co., Washington, D. C., has been incorporated with a capital stock of \$150,000.00, by the following incorporators: Robert J. Nagle, Samuel H. Nagle, D. S. Fletcher, N. A. Smith and K. M. Fletcher.

The John A. Hayden Slate Co., St. Louis, Mo., has been incorporated to manufacture and sell slate roofing with a capital stock of \$10,000.00. The incorporators are: John A. Hayden, Edward Hayden and Isabella Hayden.

The modern four-table slate factory, owned by the Ozark Slate Co., Damren, Ark., is now in operation. Mr. Root, the manager of this concern states that they have a fine bed of solid slate open and that the supply is almost limitless.

The W. H. Hughes Slate Co., Sandy Hill, N. Y., has been reorganized and elected E. R. Norton director in place of Mr. Hughes, deceased. T. S. Nelson was also chosen director in place of E. C. Whittemore, resigned. John Edwards was elected director to fill vacancy caused by the resignation of H. J. Stevenson. E. R. Norton, was elected as president; J. E. Norton, vice-president; J. W. Edwards, treasurer.

The Morris Slate Co., Rutland, Vt., is said to have made a deal with the Vermont Slate Co., of Granville, N. Y., to handle the output of its quarries. The Granville concern does an extensive business in both manufacturing and marketing slate products, and will handle the Morris Company's produce for the next six months. This slate is a sea green color, and is manufactured into roofing slate before being shipped.

When in the Kasch Bros. Roofing Co.'s office in Pittsburgh, we observed something on their floor which did not look exactly like linoleum, yet it was sufficiently like it to attract our attention to it, and we were somewhat surprised to find that it was a roofing material, which has proved a very profitable seller to them. It is rubberoid and is manufactured by the Standard Paint Co., of New York. It would seem that anything that would wear well on a floor would stand the test of the elements on a roof.

Roofing.

St. Louis Meeting.

The National Association of Master Composition Roofers of the United States. President, E. S. Bortell, Philadelphia, Pa.; First Vice-President, J. B. Ohlgenschlager, Louisville, Ky.; Second Vice-President, J. W. Moore, Providence, R. I.; Secretary-Treasurer, Wm. K. Thomas, 61 Warren Avenue, Chicago, Ill.

This association, which is the only strong one in the roofing line, will hold its next convention in St. Louis, Mo., Aug. 24 and 25, 1904.

There will probably be no special programme outside of the regular order of business and discussion of the problems connected with the composition roofing business. All spare time will be spent at the fair.

All those interested in this line should get in touch with the secretary and get up-to-date information.

The object of the association is to acquire and disseminate to its members valuable information; to facilitate the speedy adjustment of business disputes; to encourage local organization; and to inculcate principles of justice and equity in business.

CHICAGO CONDITIONS.

CHICAGO, ILL., July 27.—Some of the roofers are complaining because business in their line is not as brisk as they would like to see it. The weather is greatly in their favor and all out-door permits are being pushed forward under the most auspicious circumstances. Buildings in all directions are going up rapidly. Lofty skyscrapers are already towering high and getting closer to the cloudland every day and many of them will soon be ready for an army of roofers. Several large apartment houses and many private dwellings are well under way, and will be ready for their covering during the ensuing month. The M. W. Powell Co. have several large contracts on hand for roofing some of the most notable buildings, where the matter of expense is hardly taken into consideration, for instance eighteen story buildings like the great First National Bank, which will be one of the most imposing structures of its kind in any city in the United States. Col. Powell laid the roof on the great Auditorium Hotel built some ten or fifteen years ago, and he declares the roof on that structure will be in as good condition fifty years from now as it is to-day. No repairs have been made on it since its completion. It has six layers of felt and one of flax and is one of the best pieces of roofing ever put on a public building in this city. The substantiality of a roof depends on the material used for the covering and the correct manner in which it is laid. Col. Powell says that an immense amount of cheap, poor work is done here in roofing, with the result that within a few years many buildings have to undergo repairing or else another roof has to take its place. Cheap roofing of any kind is an expensive business in the long run.

Union Labor Trouble.

Roofing firms have been having some trouble with their employees the past month. Now it is the "closed shop," and the roofing unions are enforcing this order in all places. They insist not only on the "closed shop," but also that only roofers who are union men shall be allowed to do any work on buildings. Most of the employing roofers have been obliged to give way to these men without any contention. They have not as yet asked for any advance in wages, but roofing firms seem to apprehend that an advance in wages will be demanded a little later in the season, when rush work commences. The men are now getting from 60 to 70 cents an hour for their work, and an eight hour day in many instances.

Chatting With the Trade.

Wm. Murdock & Co., 145 La Salle Street, report business fairly good with good prospects a little later on in the season. This is a substantial firm and one that is doing a good business. They use felt composition and gravel in their work, and maintain that good gravel roof, properly applied makes a very substantial and enduring roof. They carry large stocks.

The Portable Gravel Roofing Co., has its headquarters at 454-456 Clark Street, and carries a large line of composition rubber roofing, asbestos roofing, roofing felts, pitch and coal tar; also asphalt roofing and paints. Jas. C. Woody & Co. are the proprietors. They claim their portable gravel roofing is easily applied and put on without difficulty by any one. Business with them is reported to be fairly good, but not just now rushing.

The Advance Gravel Roofing Co., 973-975 W. Twelfth Street, deal almost entirely in gravel as a roofing material. Business reported in fair condition, but they could do much more than they are doing. Look for more activity a little later on.

Bremer & Bielenberg are tin and iron roofers at 1136 W. Thirteenth Street. They are experienced men in their business and do excellent work, and work of an enduring kind. Business moderate at this time, but they say prospects are good for more activity later on.

A good many practical roofing firms in this city carry on in addition to their roofing business the manufacture of zinc and corrugated iron. The Illinois Roofing and Cornice Co. at 14 N. State Street report the roofing business at this time a little slow with them, but in the manufacture of cornice their machines are kept constantly busy. The firm covers in its business about every branch in the roofing business and when one branch lags they are kept busy in some other one or two branches. They have several roofing contracts on hand for August and September, and think business in their line has a good outlook.



Concrete Block House with Cement Tile Roof, built by T. E. Schultz, Detroit, Mich.

The majority of the large men in the business are members and it is considered an honor as well as a good business move to become a member of this organization.

Cement Roofing Tile.

New Portland cement uses are constantly coming to the front, or old uses largely increased. One of the most recent advances in the use of Portland cement is to be noted in the manufacture of cement roofing material. A firm at Saginaw is manufacturing a cement shingle which is the same shape as the wooden shingle, and in Detroit, the Detroit Cement Tile Co., of which H. T. J. Fuhrman is president, have been for some time manufacturing a cement roofing tile in much the same shape and design as a vitrified clay tile, and a number of buildings have been covered by the product of this company. A roof of this sort is illustrated in this issue. These tiles are made in various colors and can be made in various shapes and designs and present a handsome appearance when properly made. An architect can gain almost any effect he desires by the use of cement roofing tile. This same firm expects soon to manufacture flooring and paving tile from cement and sand for fine concrete. The building which shows the roof is one which is owned and was designed by F. E. Schultz, of Detroit, and is yet incomplete. It is a double house of nine rooms each and Mr. Schultz expects to complete the house at a cost of less than \$5,000.00. It looks to us as if the cement roof tiling industry has a great future.

For the Retailer.

The National Builders' Supply Association.

Meets Semi-Annually.

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JOHN A. KLING	President.
Cleveland Builders' Supply Co., Cleveland, O.	
JAMES G. LINCOLN	Vice President.
Waldo Bros., Boston, Mass.	
W. S. HUMBERT	Vice President.
W. S. Humbert, Inc., Buffalo, N. Y.	
AMBROSE TOMKINS	Vice President.
Tomkins Bros., Newark, N. J.	
ADDISON H. CLARKE	Vice President.
Wm. Wirt Clarke & Son, Baltimore, Md.	
S. D. LINCOLN	Vice President.
National Mortar Co., Washington, D. C.	
WALTER T. BRADLEY	Vice President.
Walter T. Bradley Co., Philadelphia, Pa.	
R. W. MARSHALL	Vice President.
Wheeling Wall Plaster Co., Wheeling, W. Va.	
C. B. MCCAMMON	Vice President.
L. H. McCammon Bros., Cincinnati, O.	
E. E. EVANS	Vice President.
Boutell Bros. & Co., Bay City, Mich.	
B. M. BALTES	Vice President.
E. M. Baltes & Co., Ft. Wayne, Ind.	
OWEN TYLER	Vice President.
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G. J. PARKE	Vice President.
V. H. Parke & Son Co., Decatur, Ill.	
C. P. FLATLEY	Vice President.
Flatley Bros. & Co., Green Bay, Wis.	
GORDON WILLIS	Vice President.
Hunkies-Willis Lime & Cement Co., St. Louis, Mo.	
J. N. THAYER	Treasurer.
O. C. Thayer & Son, Erie, Pa.	
RICHARD KIND	Secretary.
Toledo, Ohio.	
HARRY S. WEST	Assistant Secretary.
Toledo, Ohio.	

EXECUTIVE COMMITTEE:

JOHN A. KLING, Chairman	Cleveland, Ohio.
D. J. KENNEDY, D. J. Kennedy Co.	Pittsburg, Pa.
C. W. S. COBB, Glencoe Lime & Cement Co.	St. Louis, Mo.
A. B. MEYER, A. B. Meyer & Co.	Indianapolis, Ind.
C. H. LITTLE, C. H. Little Co.	Detroit, Mich.
F. S. WRIGHT, Meacham & Wright.	Chicago, Ill.
RICHARD KIND, Toledo Builders' Supply Co.	Toledo, O.

Official Organ, ROCK PRODUCTS.

A SUCCESSFUL ORGANIZATION.

The Toledo Builders' Supply Co.

TOLEDO, OHIO, July 18.—While visiting Toledo, Ohio, the other day one of the first men we struck was the assistant secretary of the National Builders Supply Association, Mr. Harry West. You all know Harry, especially if you have ever done anything he did not like very well. Well, Harry took us in tow and we started out to find Joe Degan and Dick Kind. Now, you all know what that means if you have ever been up against the Toledo Builders Supply Co.

We found them hard at work, as is always the case when you go to their office any time between 7:30 in the morning and 5:30 in the afternoon, but every one knows, who has ever visited this company that if you will just give them fifteen minutes notice they are always ready to entertain visitors, customers or salesmen from whom they buy, and do it right royally.

There is a current expression going around among the salesmen and manufacturers who do business with the Toledo Builders' Supply Co., "if you are allowed to buy anything while in their company you might as well pack your kit and get out." This simply means that you are in disfavor and that they do not intend to purchase anything from you. They have a great deal of fun with the many good fellows who call on them, because



PLASTER PLANT OF TOLEDO BUILDERS' SUPPLY CO., AT YARD NO. 2, TOLEDO, O.

these fellows always wish to carry their share of the expense and feel bad when the boys will not let them do something. Now, this condition of affairs did not hurt my feelings at all, for every once in a while when I insisted on buying something I would always see proper amount rung up on the cash register and consequently feel good, but I always got back as much money as I handed



Yard No. 3, Toledo Builders' Supply Co., Toledo, O.

over the counter. It is about the only town in the United States in which we were able to keep anything in our pockets for any length of time.

To make a long story short, the bunch of boys who hang around the Builders' Supply offices are a lot of the most royally good fellows it has ever been our pleasure to meet. We look forward to the time when we can run in on them and say

hello again, or have the opportunity of catching some of them in Louisville. They are popular both at home and abroad.

As an evidence of the confidence everybody in Toledo has in Richard Kind I would state a circumstance which happened last month. There was a base ball game at Cresceus park between the traffic department and the coal men. The most delicate and most important part of the whole proceedings were entrusted to Richard Kind, who was made the *official water boy*, and they say that he discharged his duty in a most thorough and complete manner, as he does everything which he tackles.

When we were ready to start out and view the yards there were four or five officers of the organization present, all doing the Gaston and Alfonso act to see who should have the questionable privilege of being our pilot, but being somewhat limited as to time we were unable to wait to see what the outcome would be, so under the guidance of Harry we made the rounds of yards 1, 2, 3 and 4 and climbed to the top of a brewery (which much to our sorrow was found deserted) trying to get a picture of yard No. 3, which would do it justice, because this yard was said by their competitors to be one of the best and most convenient yards in the Central West. The yard lies between a number of railroads and is two squares deep. The Wheeling and Lake Erie is on one side and the Ann Arbor and Pere Marquette on the other. This yard is used mainly for the storage and distribution of cement, sewer pipe and brick. Shipping and distributing facilities at this yard are exceptionally good.

From here we went to yard no. 4 which is their center for sand distribution, and is the old Kind & Kuhlmann property. It is also a warehouse for



OFFICE FORCE OF TOLEDO BUILDERS' SUPPLY CO., SPITZER BLDG., TOLEDO, O.

ROCK PRODUCTS.

distribution for all sorts of builders' supplies. The sand business here is quite a factor with this company. The sand used in Toledo and vicinity is nearly all dredged either from the river or the lake, and this company operates six sand boats and have steam derricks for unloading at several of their plants, as well as extensive dockage. Sand is loaded on the boats by suction pumps and removed with clamshell buckets.

At yard No. 2 the company's hard wall plaster plant is located and produces the well-known Cresceus brand. This is also a distributing warehouse for other materials and considerable sand is handled from this point.

Yard No. 1 is on the East side, and is the yard that furnishes most of the ready mixed mortar. After doing all these yards it was easy to believe that this company is in a position to handle a large per cent. of the builders supply trade in Toledo, especially if you bear in mind the genial personality and business experience and diplomatic methods of the men behind the helm.

The Toledo Builders' Supply Co. only dates back a few years, but the experience of the men who are interested goes back many years. The company was organized in May, 1900, and took over the property of the P. and T. Degnan Builders' Furnishing Co. and Kind & Kuhlmann Builders' Supply Co., the Fred Boyce Co. and Doherty & Co.

The firm of Degnan & Co. was started by H. Degnan, who was a German and an influential factor in Democratic politics, and who served eight or nine years as an alderman. He was the first man to introduce ready made mortar in Toledo, and Dick Kind says: "We are still cursed with it." Peter Degnan of this firm was formerly a plaster contractor and Thomas Degnan of the same firm was formerly a sewer contractor.

Fred Boyce Co. was in existence since 1880, and Fred Boyce was formerly a brick contractor.

Doherty & Co. has been in the business for many years and have also been connected with the lime business at Lucky, Ohio. Mr. Thomas J. Degnan being one of the pioneers in the hydration of lime.

Kind & Kuhlmann have been in business for a number of years. Mr. Kuhlmann was formerly a brick and blasting contractor and Mr. Kind had put in seven years as a book keeper for the Degnans, and finally started into the supply business, when the Degnans naturally thought that he ought to be put out of business, and of course went after him hard. Richard would not down. He had too much diplomacy and too much business sense for that, and as a result of his efforts and those of Jos. P. Degnan, the Toledo Builders' Supply Co. was formed and it is probably that it is in a large measure due to the efforts of the popular manager and the efficient secretary of this company, that there is so much harmony in the present organization. This company not only tries to have harmony in its own domicile, but aims to work in like manner with all those who have anything to do with the builders' supply line in their immediate territory. The officers of the company are: P. H. Degnan, president; A. R. Kuhlmann, vice president; J. P. Degnan, secretary and treasurer, and Richard Kind, manager. The yards are located as follows: No. 1, Main Street and T. & O. R. R.; No. 2, 417 Water Street; No. 3, Cherry and Woodruff Avenue and W. L. E. R. R., and No. 4, 153 South St. Clair Street.

The National Builders' Supply Association has done well to select Mr. Kind as their secretary. Mr. Kind was at one time police commissioner for a number of years and was influential in having many reforms instituted in that department of the Government in Toledo. He was a strong friend of Mayor Jones.

Mr. Kuhlmann, of the same firm, is very fond of fast horses and Mr. Kind says, "Our brand of plaster is just as well-known as the famous horse who travels so fast under the same name." He also stated that his firm handled everything in the building supply line except lumber. The conditions in the supply line are a little different in Toledo from many other places because there is practically no bank sand used which makes it absolutely necessary that the builders' supply people should have dockage which is a very expensive proposition in a city like Toledo. The Toledo Builders' Supply Co. is well fixed in this respect now, even though it was an expensive thing in the beginning.

Jos. P. Degnan was formerly auditor of the Ann Arbor R. R., so you see there are good reasons for this company being one of the strongest in the business, when you look back and review the experience of the men who have come together. They are not only familiar with the work for which they sell materials, but with the methods of manufacturing materials sold, methods of contracting, transportation facilities and railroad tariffs.

The same interests which are connected with the Toledo Builders' Co. own and operate a brick plant on the east side. This plant is known as the Ohio Brick Co., and makes nothing but building brick.

Ohio Builders' Supply Co.

About four years ago W. O. Holst, who, although quite a young man, probably as well known as Councilman Holst as by any other name, entered the builders' supply business in conjunction with a number of contractors forming what was known for several years as the W. O. Holst Builders' Supply Co. While Mr. Holst was a strong factor in politics, he was probably wise for in pulling out of politics and going into business. Under the guidance of Mr. Holst the business prospered from the start and about three years after that there was a re-organization and the title of the firm became the Ohio Builders' Supply Co., retaining Mr. Holst as manager. Mr. Holst has many friends in the city, and has the good sense to co-operate with the Toledo Builders' Supply Co. whenever it is possible as well as any other firm with which they come in competition.

The Ohio Builders' Supply Co. are also manufacturers of hard wall plaster with offices and yard on Erie Street, Swan Creek to Canal. The officers of the company are: Egbert Doville, president; Otto Augsbach, vice president; A. H. Gallagher, secretary and treasurer, and W. O. Holst, manager.

There is said to be a small yard on the East side, but time will not permit us to say anything about it.

The good feeling which exists in Toledo is shown by the fact that you frequently find the manager of one supply house in the office of the other, and when we were in the Spitzer Building among the

building supply interests which are represented there we found them all chummy.

We met a number of old friends while strolling around with Harry West, among whom was Al Gallagher, of W. O. Holst Co., and Mr. Hoover, of Northampton Portland Cement Co., of Philadelphia, Pa., and of course we saw A. H. Lauman, because we never stay in a place in the Central States more than two or three days at a time, without running across him. He seems to be on the hustle all the time.

We saw Charles Wade, of the Omega Portland Cement Co., doing his best to try to buy something for the Toledo Builders' Supply Co. boys. His experience was much the same as ours, but we do not think he took to it as kindly as we did.

We had several pleasant interviews with our old friend Birgin, of the Robinson Graves Sewer Pipe Co. President Graves was in town for a few hours, but we failed to connect with him. The boys say that their new sewer pipe plant is a model one and doing well.

We did not have a chance to kiss Birgin goodbye because he went off to the Detroit races before we left town.

We surely would have gotten lost had not Harry taken such good care of us. He even went so far in extending courtesy as to see us to the depot, and made sure that we got out of town. Of course it has occurred to us that he may have thought we had stayed long enough already for he made sure that we did not miss our train. We are always ready to put the best construction on everything, however, so when we have stayed long enough you will have to tell us in plain English. All I have to say is, I want to see the whole bunch in Louisville.

SAND.

The Fowler Sand Co., New Haven, Conn., has been incorporated by Fred Carleton, Fred S. Carleton, Jr., and William Fowler.

The Chatawa Gravel Co., Chatawa, Miss., has recently been incorporated with a capital stock of \$100,000.00, with C. J. Bartlett, M. Thompson and others as the incorporators.

The Loogeotee Glass Sand Co., Louisville, Ky., has filed articles of incorporation with a capital stock of \$10,000.00. The incorporators are H. G. Eggers, Jacob Phauer, J. H. Gieuber and Lee P. Spies.

The Garden City Washing Co., and the Aetna Gravel Washing Co., both of Algonquin, Ill., are doing a large business in sand and gravel, and they have molding sand interests there doing an extensive business.

The Jamesburg Sand Co., New York City, has been incorporated with a capital stock of \$3,000.00, by the following incorporators: H. M. Brookfield, Frank Brookfield, of New York City, and Kate M. Brookfield, of Ardsley-on-Hudson.

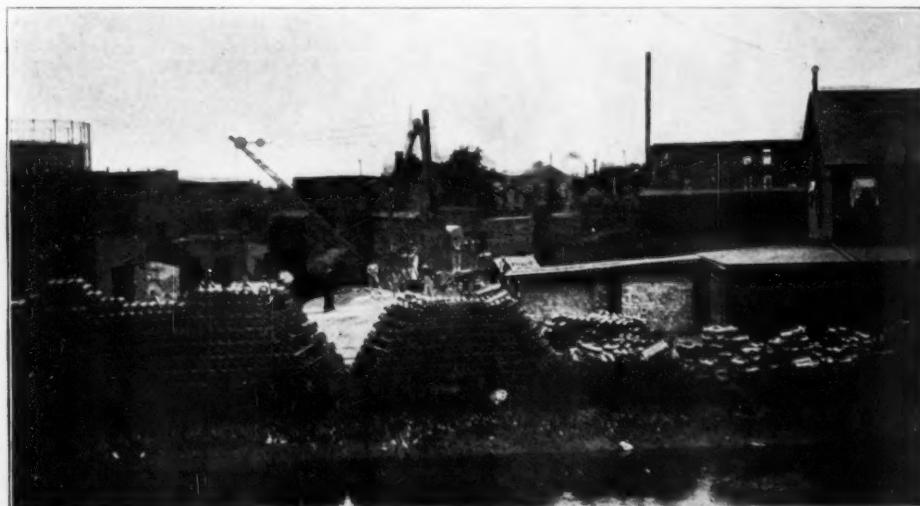
The Stewart-Peck Sand Co., Kansas City, Mo., had one of its big sand carriers toppled over into the Kaw recently, causing a total loss of \$25,000.00. The company had some time before the accident erected a duplicate carrier, and thereby is able to carry on its trade at that point, but in a limited way.

The Ohio River Sand and Gravel Co., Paducah, Ky., has its new sand digger completed, and it will be put in operation at once. It is built on very substantial lines and is expected to render most excellent service. Its capacity is 600 yards a day. This firm feels sure it is now in a position to supply the demands for sand.

SALT.

Reports from Manistee, Mich., state that the plant of the Peters Salt and Lumber Co., that place, had its plant destroyed by fire recently. This plant was acquired only two ago for the sum of \$50,000.00, and the only thing saved was a salt well operated by them. One hundred and fifty men are thrown out of employment, for it is stated that the mill will be rebuilt.

The Seneca Salt Co., Elmira, N. Y., which was recently incorporated under the laws of New York State has elected the following officers: John E. Mulford, president; Lewis H. Duland, vice president; John Corbett, secretary; Fred J. Dunham, treasurer. The directors of the company are the foregoing officers, and Eli A. Dunham, B. W. Scobey, F. L. Lamson and S. F. Northup.



Yard of Ohio Builders' Supply Co., Toledo, Ohio.

Plaster.

The National Plaster Manufacturers' Association.

Meets Semi-Annually.

H. E. DINGLEY, Syracuse, N. Y., President
 A. H. LAUMAN, Pittsburgh, Pa., First Vice President
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 JAS. LEENHOUTS, Grand Rapids, Mich., Third Vice President
 ALEXANDER FORRESTER, Cleveland, Ohio, Treasurer
 E. H. DEFEBAUGH, Louisville, Ky., Secretary

Official Organ, ROCK PRODUCTS.

A Leader in the Smoky City.

PITTSBURG, PA., July 1.—The activity and jar of this industrial city is so great that nothing but a good wall will stand. Notwithstanding the fact that it bears the reputation of being the dirtiest city in the United States, everybody wants a nice white wall plaster. For this reason the poor man who supplies this trade has a rather hard path to follow. Our friend, Mr. A. H. Lauman, seems to be the boy with the goods. The National Mortar & Supply Co., of Pittsburgh, Pa., of which he is manager, has kept its plant out at Melrose pretty busy during its life. This plant was formerly known as the Fitzgerald Plaster plant. Plaster made at this point differs somewhat from most of those on the market in that it carries a very high percentage of hydrate of lime, prepared especially for this purpose by the Standard Lime Co., of Gibsonburg, Ohio. By the use of this specially prepared lime the plaster is said to carry more sand and give a richer and better product with the use of less lime in the mixture. The sand is brought to the plant by barge and is elevated by a clam shell bucket and derrick to the storage pile from which a belt conveyor transports it to the dryer. As needed bucket conveyors carry the dry sand to the mixers, where the other materials are added in weighed quantities.

This company was established about thirteen years ago by A. H. Lauman and others, and a few years later Mr. Lauman materially increased his holdings and has taken the active management ever since that time, building up the business and the product to its present standing.

The Rockford Rock Wall Plaster Co. of Rockford, Ill., is having a splendid trade this season. Its reputation for making good wall plaster has reached out to a large territory, and a large proportion of the best public and commercial buildings as well as residences are using Rockford plaster.

The plant of the Standard Wood Fibre Plaster Co., at Hopwood, Pa., was destroyed by fire recently causing a loss of nearly \$20,000.00, with only \$3,750.00 insurance. There was no fire protection and the origin is unknown.

The Tennessee Wood Fibre Plaster Co., Knoxville, Tenn., was recently organized by a party composed of W. L. Murphy, of Murphy & Co., C. M. Cowan, of C. M. Cowan & Co., and J. P. Gaut, president of the Huston National bank, who bought the exclusive right to manufacture the Georgia wood fibre hard clinch plaster in the territory of East Tennessee. They will at once build a new plant and expect to manufacture their goods at once. This means an immediate expenditure of \$25,000.00. The capacity of the mill will be twenty tons daily.

The United States Gypsum Co., LeRoy, N. Y., has purchased the Oakfield Plaster Manufacturing Co.'s plant in that village. The office at that point will be discontinued. The plant has been in operation about ten years.

The Charlotte Plaster Company, chartered for sixty years will do business in Dilworth, a suburb of Charlotte, N. C. Its capital stock authorized is \$100,000, and it commences business with a paid in capital of \$15,000, the incorporators being: D. Woodward and W. B. Disbro, of Atlanta, Ga., and Sadler Gillespie, of Charlotte. The company is organized to manufacture, buy, sell, convert and deal in and deal with fire proofing, wood fibres, wall-plasters, cement, lime, kaoline and building materials of all kinds and to manufacture the same and to deal in timber and to build houses and act as contractor, etc.

SAND.

The Baltimore Sand and Contracting Co., at Baltimore, Md., has been incorporated with a capital stock of \$12,000.00, by Charles Matt, Warren Edwards, John H. Pinning, Ernest H. Gibbons and Henry M. Reinhart.

The Mountain State Sand Co., of Pickens, W. Va., although recently organized have commenced operations extensively, seeming to have an excellent field.

The Jeness Sand Co. has been organized at Portland, Me., with the following officers: Richard S. Dow, Marion, Miss., president; Charles Bartlett, treasurer; and John J. Cilley, of South Deerfield; Henry Prentiss, of Bangor, Me.; and Hon. Calvin Page, of Portsmouth, directors.

The Garden City Sand Co., which own sand quarries near Ottawa, Ill., has been incorporated with a capital stock of \$100,000.00. The principal offices of the company will be in Chicago, Ill., and the incorporators are: C. B. Sheffer, N. C. Fisher and C. H. Walton.

The Lake Shore Sand and Gravel Co., Cleveland, Ohio, has been incorporated with a capital stock of \$25,000.00.

The Tangier Sand Co., Freehold, N. J., has been incorporated with a capital stock of \$100,000.00, by Albert A. Taylor, Lysander E. Watson, Peter F. Dodd, William D. Jackson and Joseph McDermott.

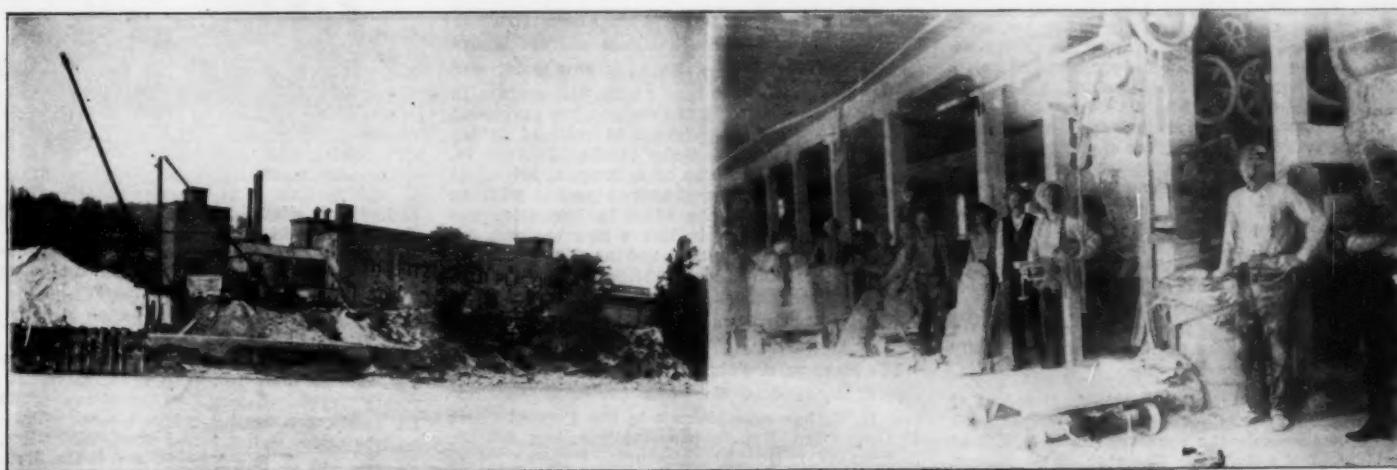
The Morse Heat Gauge.

The report of the Committee on Science and Arts on the invention of Edward Morse, published in the Journal of the Franklin Institute for January, 1904, passes favorably upon the Morse heat gauge. This probably is the only instrument or pyrometer which could be used to advantage by the lime people as a means of determining when their lime had reached the desired temperature, or when it went beyond it or below it. This committee pronounces the invention of Mr. Morse remarkably practical and founded on good scientific principles.

Mr. Morse's invention consists in comparing one incandescent body with another, the heat value of one of them being known which is considered as his standard—the other is the body the temperature of which is to be measured. Mr. Morse's standard is a simple incandescent lamp, the temperature of its filament, and therefore its color can be regulated by varying a resistance in circuit with a millimeter. The lamp was enclosed in a tube open at both ends through which the observer looked. The rays from the object, the interior of the lime kiln, for instance, will then be superimposed by the rays of the glowing lamp. When the filament of the lamp becomes invisible, you would then know that the rays within the kiln are the same temperature or of the same value as those within the lamp. There is no difficulty in observing this point, and the range of temperatures for the best results in lime burning being comparatively narrow—that is a probable range of 150 degrees between the point at which the burning is rapidly completed and the point at which it begins to be over-burnt. With a proper arrangement of resistance, this entire range could probably be covered with one standard lamp. However, what the lime man would want would be to get his standard lamp set for the temperature which he had determined upon to get the best results for his stone and in that particular kiln. Then it would be an easy matter to determine when the lime had reached the desired temperature, and whether you were holding it at that temperature or falling under it, and in drawing, he would observe and never allow any thing to pass his fire which was not up to the desired temperature. It would not require long to teach the workman how to use this instrument to good advantage.

The Crushing Strength of Concrete.

H. Burschatz of King's Technical Experiment Station in Germany, finds as a result of extensive investigation, that the prevailing view that concrete mixtures obtain a greater strength than the mortar used in their preparation, is not always correct; that in fact the reverse may sometimes be true. In general it may be stated that within the time usually allowed in the setting of mortar and concrete mixtures, the strength decreases with the increase of the size of the cubes formed by the mixture, and this variation in strength proceeds at all events up to a period of eighty days. He recommends that the size of cubes prepared for strength tests should, as far as possible, approximate that of the concrete block to be used in the structure.



Plaster Plant at Melrose, Pa., of the National Mortar & Supply Co., of Pittsburgh, Pa. Interior of Plaster Plant at Melrose, Pa., of the Nat'l Mortar & Supply Co., 2d Nat'l Bank Bldg., Pittsburgh, Pa. Foreman of plant next to scales and A. H. Lauman just to his left.

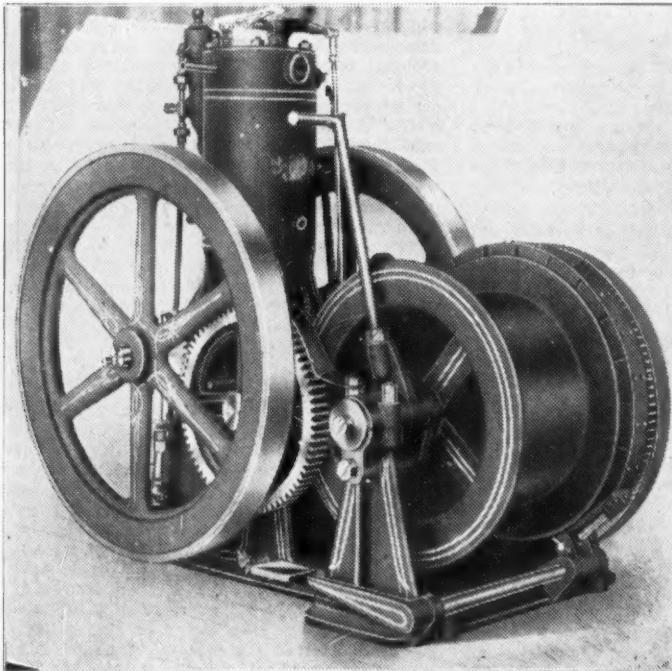
Side Talk.

"Blakeslee" Hoisting Rig.

We are in receipt of a new catalogue of the White-Blakeslee Manufacturing Co., of Birmingham, Ala., describing their designs of gasoline hoisting rigs, a cut of one of which is represented in these columns.

The company is widely known throughout the United States as the manufacturers of the "Blakeslee" gasoline engine, one of the most efficient and durable engines upon the market to-day.

The hoist, as shown in the cut, can be used either in combination with a 4, 5 or 6-horse power vertical engine, and has about a maximum capacity of 700, 900 and 1,100 pounds, respectively, at a hoisting speed of 150 feet per minute. The drum will hold about 400 feet of $\frac{1}{4}$ -inch rope, or 1,000 feet of $\frac{3}{8}$ -inch wire cable. Beside hoisting, the machine can be used to operate elevators, convey-



THE BLAKESLEE HOISTING RIG.

ors, derricks, for prospecting, and even for pile driving, with great economy and efficiency.

The friction clutch is carefully made, and provided with take-up in case of wear, insuring no slipping of the load when in the operation of hoisting. All the gears are machine cut, practically noiseless and very easy running, reducing friction to a minimum. The load is raised by friction drive, controlled by hand lever at the side of the machine, and is lowered by the use of a foot brake immediately below, thus the operations necessary to raise and lower the load can all be made with the operator standing in one position.

The drum-shaft is provided with a wench-head on one side, which can be used for hauling any material that may be wanted. In other words, it constitutes an independent hoist.

During such time as this rig is not used as a hoist, the engine can be utilized as power for any purpose desired.

Frederick Hazzard, Syracuse, N. Y., president of the Solvay Process Co., one of the largest rock product concerns in the country, has been elected president of the Syracuse Chamber of Commerce, and J. Wm. Smith, of the same company, was elected a member of the Board of Directors.

The American Clay Working Machinery Co., of Bucyrus, Ohio, will have an exhibit of Machinery in the Mines and Metallurgy Building, Block 20, Section F, at the St. Louis Exhibition. There will also be an attendant there whose business it will be to see that everyone who calls receives a souvenir. They will also have an exhibit of the products manufactured by their machinery from all parts of the country. There are a great many in the neighborhood of St. Louis and within the city which are using machinery built by the above firm, and an arrangement has been made so that visitors will be welcome at these places where they can see this machinery in daily operation.

Among the places available and within easy distance of the center of St. Louis, are the St. Louis Vitrified Fire Brick Co.; the Laclede Fire Brick Manufacturing Co.; The Evans & Howard Fire Brick Co.; the Mississippi Glass Co.; the Mitchell Clay Co.; the Christy Fire Clay Co., and others.

Everybody will be welcome at Section 20.

H. G. Kotten, manufacturer of pneumatic tools and appliances, with main office at No. 120 Liberty Street, New York City, announces that he has appointed Foster & Hosler, 415 Wabash Avenue, Chicago, Ill., as representatives in the Central

States, and Berger, Carter & Co., 150 Beale Street, San Francisco, Cal., as representatives of the Pacific States. Both of these agencies have an extensive sale of the Kotten pneumatic tools and appliances, and they are well known to the trade in their respective localities, having been long established in reliable houses.

L. Leblanc & Sons, Rutland, Vt., state that they have obtained the United States patent upon their centrifugal pump for feeding sand to gang saws, which has been issued to Leon Leblanc, bearing date of January 20, 1903, and later obtained a Canadian patent under date of July 21, 1903. They also state that they now wish to try it and make a test in order that they may push it in the market. They are about to place one in a marble mill at Rutland, having at the present time two of the pumps on hand which they will use in the trial test, and which they expect to be successful in.

A special hydraulic press of the Fisher Hydraulic Stone System, whose business address is 384 Second Street, Memphis, Tenn., is now under construction for the company, which will operate in the State of Georgia. The company has purchased its outfit for special purposes in railroad bridge work. The press will make blocks 27x24x70 in. down to a block the size of a common brick. It has a pressure of many hundred pounds with an apparatus for firing the same in less than one minute, thus bringing in line a new business for concrete block machinery, and as Mr. Fisher is constantly advancing the concrete business, he is certainly deserving of great praise for his enterprise.

The Harmon S. Palmer Concrete Building Block Co., of Alexandria, Va., with offices in Washington, D. C., has won his suit in the Federal Court at Owensboro, Ky., to perpetually enjoin Spayde, Bennett & Co., from manufacturing building blocks with which they constructed the Christian church in that city.

The Hudson River Tunnel.

While several other tunnels are in the course of construction under the Hudson and East rivers to connect New York with its neighbors, the completion of the original so-called "Hudson River"

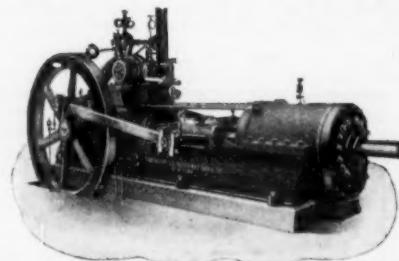


tunnel under the charge of Chief Engineer C. M. Jacobs has attracted unusual attention. From the start, compressed air was used, not only to operate the rock drills, but to hold back the sand and mud and overcome the obstacles, which made subaqueous tunneling so hazardous. The consequent developments of the shield method, in which compressed air is absolutely essential, came as the tunnel advanced, and the methods, which proved successful in this instance, have since been adopted for other undertakings of a similar nature and are now meeting all the requirements of the work.

It is an interesting fact to note that from the time the Hudson river tunnel was started thirty years ago, up to the completion of the first bore a few weeks ago, Ingersoll-Sergeant machinery has been used. The building of this tunnel marks the period of development in the air compressor, and at this time when the work is nearing completion there may be seen in operation the old and the new types of air compressors. The compressors used at the start of the undertaking were of the old water injection type. As the work progressed these were replaced by the newer machines, with poppet inlet valves and water jacketed cylinders. When the Hudson Improvement Co. began operations two years ago, a complete equipment of modern Ingersoll-Sergeant compressors was installed and has since supplied all the air necessary in the headings on both sides of the river.

There are two power houses, one in Jersey City and the other in New York. The Jersey City power house contains four compressors, one of the Class "H" duplex type with steam cylinders 16 inches in diameter duplex air cylinders 20 $\frac{1}{4}$ inches in diameter by 16 inches stroke, and three of the Class "A" straight line type with 22 inches steam cylinders and 24 inches stroke. Of the latter, two have air cylinders 26 $\frac{1}{4}$ inches in diameter and the other with an air cylinder 22 $\frac{1}{4}$ inches in diameter.

The equipment at the New York power house, at the foot of Morton Street, includes two duplex Class "H" compressors, similar in size to the one at the Jersey end of the tunnel and one "Straight Line" Class "A" machine with steam cylinders



22 inches in diameter, air cylinders 22 $\frac{1}{4}$ inches in diameter and 24 inches stroke.

Now that the first bore is completed, these machines are being used in building the second one which is to be parallel to the other.

C. O. Bartlett & Snow Co., of Cleveland, Ohio, are erecting for the United States Geological Survey, one of their No. 3 four compartment direct rotary dryers within the Exposition grounds at St. Louis, for testing lignite coals. This plant will be under the direction of E. W. Parker, J. A. Holmes and M. R. Campbell, and is the first of the kind ever authorized by the United States Government.

Mr. Martin Hardscog, the manufacturer of the "Little Wonder" air hammer rock drill of Ottumwa, Iowa, has recently received a number of testimonials from users of the "Little Wonder" which we have the pleasure to note herewith:

"CAMBRIA, Wyo., July 23.—The drill proves very satisfactory, more than meeting our expectations. We wish you would please send immediately by freight another drill and outfit, the same as you sent to Cambria, but consigned to W. G. Page, Hayden, Idaho.

CAMBRIA FUEL CO."

"ST. LOUIS, Mo., July 8.—We can say that the "Little Wonder" air hammer rock drill is being used by us in hard limestone and is the most satisfactory drill we have ever operated. Its simplicity commands it above all and we believe it will be as good after five years' use as it is to-day. All that is necessary to keep it going is to sharpen the drills. Any boy can operate it as it is not tiresome, the drill being very light. We see no reason why it should not be sold for quartz and granite as it is for limestone. We have drilled eight inches in four minutes' time and when we need more drills will certainly purchase the 'Little Wonder' as we have never found anything to equal it.

MERANCE QUARRY CO."

The Harmon S. Palmer Hollow Concrete Building Block Co., Washington, D. C., state that they are keeping up their reputation as a money-making enterprise. The quantity and quality of the machinery sold is just as good and better than ever. This is an enterprising concern with progress on their inside and who do not believe in going backward.

The Thos. H. Dallett Co., of Philadelphia, have lately opened an office in Cincinnati, at 51 Mitchell Building, Mr. Kessler Smith, manager. They will carry a stock of their well known pneumatic stone tools at the Cincinnati office for the accommodation of their rapidly growing business in this section. The Dallett Co. have also lately appointed the Borden & Selleck Co., 135 Water Street, Cleveland, their general agents in Northern Ohio, at which place they also carry a stock of their tools.

The George Raymond Mill Co., 950-951 Monadnock Block, Chicago, Ill., report that they have received another order from the American Kaolin Co., of Akron, Ohio, this being the second order in the last thirty days and they will complete the plant for the Kaolin Co. They further report that business is very good, and have some large orders pending for cement, plaster, graphite and paint machinery and air separators. As they certainly have the machinery second to none in the market, it would be well for the purchaser to communicate with them before buying.

Mr. P. L. Simpson, of the National Brick Machinery Co., is now fully installed in Chicago, 813 Chamber of Commerce Building with full facilities for bringing out his specialties which embrace the following: National system for sand-lime brick machinery with a full line of sand-lime brick machinery; lime hydration under the colonial system with full outfit of hydrating machinery; the Finlay sand dryer and also the dry press clay working machinery. He is an expert by reason of his twenty years' experience in the manufacture of brick machinery, but for more than a year and a half he has given special attention to the sand-lime brick machinery and he claims that the National system is second to none of the United States or any other country.

Macomber & Whyte Rope Co., 19-21 S. Canal Street, Chicago, are out with an interesting booklet on the subject of wire rope and the appliances for its uses. It is a useful compendium of information which no manufacturer should be without, and incidentally we learn that they have recently supplied Jones Bros., at the St. John's Cathedral, being constructed in New York, with their Monarch hoisting apparatus for raising the large, ninety-ton columns, which is the largest work of the kind which has ever been done in New York City.

We have on hand from the Ricketson Mineral Paint Works, University Building, Milwaukee, Wis., an interesting and attractive circular upon the subject of mortar colors. This is especially interesting to the growing audience of concrete workers throughout the country and contains some testimonials showing that the colors exploited have satisfactorily stood the test of fifteen years.

W. H. Anderson & Sons, 21-31 St. Aubin Avenue, Detroit, Mich., has recently added a line of pneumatic stone cutting tools. They have been making stone tools for thirty-three years and their cement working tools and general contractors' tools are already well and favorably known.

The business heretofore conducted under the name of the Brunswick Marble and Granite Co. will hereafter be known as the Southern Marble and Granite Co., with offices at Jacksonville, Fla.

We have received from the Ingersoll-Sergeant Drill Co., Havemeyer Building, 26 Cortlandt Street, New York City, a copy of their new catalogue No. 81, devoted to the subject of "Flowing oil wells by compressed air." It contains a detailed description of the Moran-Moser flowing system. This is an application of the air lift which has been described but little, but at some future time a more extended notice will appear in these columns.

The Emerson Steam Pump Co. have moved their offices from Washington, D. C., to their factory at Alexandria, Va.

The Columbia Stone Co., Cleveland, Ohio, with offices in the Society for Savings Building, has recently received an order for 250,000 cubic feet of sandstone to be used in the Carnegie Library at Pittsburgh, Pa. The general contract amounts to \$4,000,000.00 and is said to be one of the largest building contracts ever awarded in the United States, and will require 1,000 carloads of sandstone from the Columbia Stone Co.

The Hondo Stone Manufacturing Co., Santa Fe, N. M., has been incorporated with a capital stock of \$25,000.00, by W. G. Skillman, S. P. Deming, James A. Gilmore, J. A. Cottingham, W. C. Burrus, Christopher Totten and W. T. Hallam. The principal place of business is Roswell.

William Truax, Minneska, Minn., has opened up a stone quarry and will operate same, getting out rock for the government. He is said to have a large force of men at work.

The Casparis Stone Co., Fairmount, Ill., contemplates starting two more large crushers and will increase their force from 300 to 400 men.

The Fuhrman Construction Co., Detroit, Mich., is meeting with financial success in making cement tiles for roofing and building purposes. The company began operations only a few weeks ago, but its business has increased so rapidly that it has been compelled to find larger quarters and

The General Fireproofing Co., Youngstown, Ohio, have favored us with a neat folder, which exploits their expanded metal floor mesh used in connection with their expanded metal concrete fireproof system, giving a very clear idea of some excellent material.

If you haven't a sticker to put in your hat, write to Fowler & Pay, Mankato, Minn. They manufacture cement and brick and lime and wall plaster and do a general builders' supply business. Their calendar sticker is a peach.

The Vermont safety oil can, which has been on the market since last year, and which is a patent automatic oiler, has met with phenomenal success in the very short time that the metal department of the company in Zanesville, Ohio, has placed this article on the market. This article is now handled among a great many jobbers through the East, Southwest and the entire Northwest, and has proven itself to be the most successful oil can on the market. The can is made of tin, brass and copper.

INFORMATION BUREAU.

835.—We are in need of a new or second-hand saw stave jointer suitable for lime and cement barrels.

836.—Who can furnish us with wood bottoms, hoops and vertical strips for basket purposes?

837.—Where can we buy screening and separating machinery to best advantage?

838.—Where can we get formulae for dry mixed plastering?

839.—Want to buy from quarries located west of Denver for delivery in the State of Washington, several tons of quartz for filtering purposes.

Wanted and For Sale

One insertion, 25¢ a line; Two insertions, 50¢ a line; Three consecutive insertions with no change in the composition, 56¢ a line. Count eight words to a line; add two lines for a head.

WANTED—HELP.

AGENTS—A prominent firm manufacturing pneumatic stone-working tools desires a number of high-class men who are visiting the stone trades, to handle their products as a side line; no interference with present business and a very attractive proposition. Give full particulars as to route traveled, present connections, etc. Address D. T. H., care Rock Products.

FOREMAN—A sober, industrious and experienced foreman for lime and ballast plant. Address POTOMAC VALLEY STONE AND LIME CO., Hagerstown, Md.

FOREMAN—General foreman for gypsum rock plaster mill; must have practical experience in manufacturing cement plaster and care of machinery; position open at once; reference required. Address GYPSUM, care Rock Products.

SALESMAN—Experienced and high-class salesman, successful in contractors' trade, to handle a leading make of rock drills and compressors. Address Box No. 30, care Rock Products.

SALESMEN—We want good salesmen all over the South for the Winget building block machine. Address A. D. MACKAY & CO., Chamber of Commerce, Chicago, Ill.

SLATE QUARRY MAN—An experienced slate quarry-man of ability, young man preferred; splendid opportunity. Address PENRHYN SLATE CO., Tuckaleechee, Tenn.

WANTED—MISCELLANEOUS.

TWO OR THREE COPIES of No. 7, Vol. 1, Rock Products. Address Rock Products, 431 West Main Street, Louisville, Ky.

TUNNEL LINING and other concrete work on railroads or public works; any amount, anywhere. Address WILLIAM C. BAXTER, 214 Wainwright Building, St. Louis, Mo.

BUSINESS OPPORTUNITIES.

HALF INTEREST IN QUARRY FOR SALE—One-half of the best general purpose limestone quarry in America; located at Kokomo, Ind., with twice as much business last year as we could do, with a million dollars worth of good stone in site; crushing plant and grinder in the quarry and railroad switch, giving shipping facilities over three roads. One contract of ground stone for glass purposes ten months in the year has netted us from \$10.00 to \$15.00 per day; artificial stone and hollow blocks have been successfully made by two men from glass dust; our territory for sale of stone is from Indianapolis to Michigan City, and Ohio to Illinois with sale in a dozen counties near by that have no stone; on account of old age and poor health will sell one-half interest of 27 acres of quarry on easy terms. For particulars see or write G. W. DEFENBAUGH, Kokomo, Indiana.

LIME QUARRY—Extensive strong lime quarry, best for concrete; calcium carbonate, 93-1/2% high ridge acres quartz sand, white and red, adjoining lime, good for cast stone and brick; will sell below competition on account of age; location good, near city growing finely. Address A. A. JENNE, 521 Woodland Ave., Petoskey, Michigan.

ROCK PRODUCTS.

CUT STONE BUSINESS—Long established, in a large Western city, yard and plant well equipped and in good order. Profits in 1903, \$7,200.00. Country prosperous, plenty of work; fine opening for an active practical man; owner recently died; his widow wishes to sell. For particulars address D. 100, care ROCK PRODUCTS.

FOR SALE—MISCELLANEOUS.

PORLTAND CEMENT PROPERTY—Ideal cement property; inexhaustible raw material, in valley of Virginia; on railroad, accessible to southern territory and to seaboard; will furnish reports, analyses, and terms; will pay to investigate. Address F. W. MAHOOD, Southern Railway Building, Washington, D. C.

FOR SALE—PLANT.

A FIRST-CLASS GRANITE-CUTTING PLANT, with a never-failing water power, located in the heart of the granite-producing section of New England, only twelve miles from the celebrated Hardwick and Woodbury, Vt., quarries, and thirty miles from the famous Barre quarries; ample shed room for a gang of men; sheds equipped in good shape for doing monumental work; will be sold cheap. Also undeveloped quarries of granite suitable for building work, within two miles of the plant; a rare chance for any one wishing to go into the monumental or building business. For particulars address ASH, care ROCK PRODUCTS.

A GOOD OOLITE LIMESTONE QUARRY on the C. G. W. railroad, 72 miles south of St. Paul, Minn.; 114 acres of land; ten cottages for men; office building; good side tracks; six fine derricks, 60 ft. high, horse power to each; in the incorporated town of Wasioja. Address J. A. GREEN, Stone City, Iowa.

BLUE STONE—Our entire plant, equipment, quarries, etc., for sale at a low figure; well located, good equipment, well established trade; quarries especially adapted to the production of large platforms and heavy rock; special car for transportation of large platforms; satisfactory reasons for selling. Address F. G. CLARKE BLUE STONE CO., Oxford, N. Y.

LET US SELL that plant for you. See head of department for rates.

FOR SALE—MACHINERY.

CRUSHING, GRINDING AND PULVERIZING MACHINERY, large variety for sale at a bargain. Inquire of J. R. ALSING CO., 136 Liberty Street, New York City.

GRANITE POLISHERS AND TOOLS—Second-hand. Address O. H. HAVILL, St. Cloud, Minn.

RAND AIR COMPRESSOR—Straight-line class "C" Rand Air Compressor, steam 10 in., air 12 in., stroke 14 in.; also drills. Address ARKANSAS PHOSPHATE CO., Security Bldg., St. Louis, Mo.

SEVERAL second-hand Pulsometer pumps, boilers, engines and miscellaneous machinery. Address MASLINS, 165 First Street, Jersey City, N. J.

STEAM SHOVEL—One "Giant B Special" 70-ton Vulcan steam shovel No. 122, complete with 2 1/4 yard dipper, at a bargain; good as new. Address N. J. CARY, Sec'y, Utica, Ill.

STEAM TRAVELING CRANE—55 ft. span, 25 ton capacity. Address FRED ANDRES & CO., Milwaukee, Wis.

TWO JAW CRUSHERS, 18-in.x36-in., equipped with manganese steel jaws. Made by Ferral Foundry and Machinery Co. For particulars inquire of CLINTON POINT STONE CO., 170 Broadway, New York City.

VICTOR STEAM SHOVEL—Yard and one-half dipper; 45 h. p. boiler; shovel has been used but seven months. As we have no use for steam shovel, will sell cheap. Address VICTOR, care ROCK PRODUCTS.

"CREDIT RATINGS AND REPORTS TO THE TRADE."

The Granite Exchange Co., confidential book and key-revised annually containing names, addresses, ratings, etc., of the granite, marble, stone, quarries, monumental dealers and workers throughout the United States and Canada. Reports everywhere without extra charge. Attorneys over towns and cities under contract to handle any legal business. Trade references from leading concerns using us many years, if desired, also any further particulars upon request. Try us one year and be convinced yourself of the merits of same.

Subscription price \$25.00 per year, including full service.

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REED O. OXNARD, Secretary.

No. 20 Pemberton Square, BOSTON, MASS.



Rock Products

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For a Whole Year.

A Great Book

—

"Like the tropical land it tells about, the book has a rich, dazzling quality all its own and commends itself to us by its rare and wonderful vividness." —*Madison (Ind.) Courier*.

Under the Sun

OR THE PASSING OF THE INCAS

—BY—

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LOUISVILLE, KENTUCKY.

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"This clever attempt to reconstruct the Incan Empire in the form of a fiction results in fascinating entertainment for the reader, and seldom has any romance had a more splendid setting." —*The Boston Globe*.

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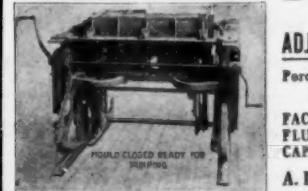
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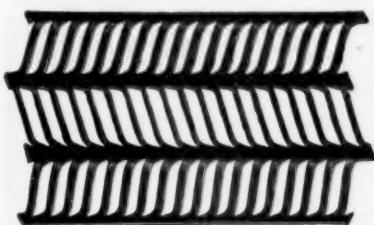
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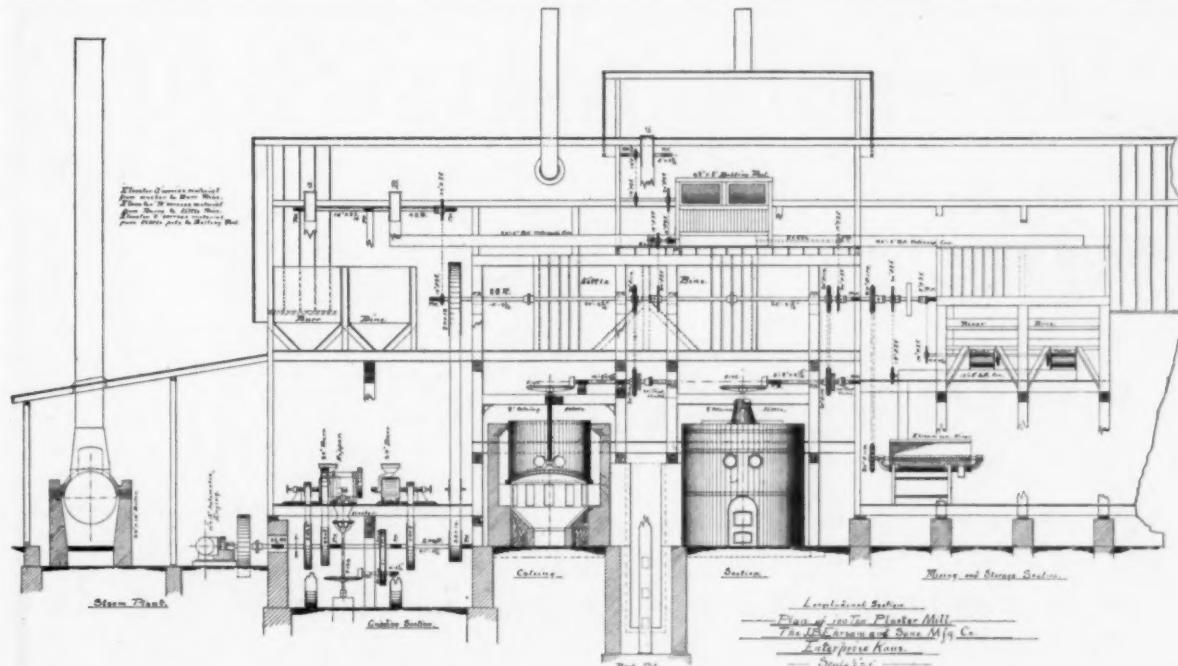
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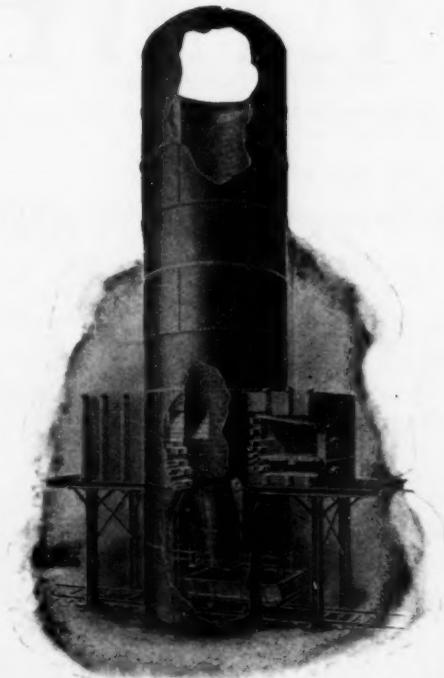
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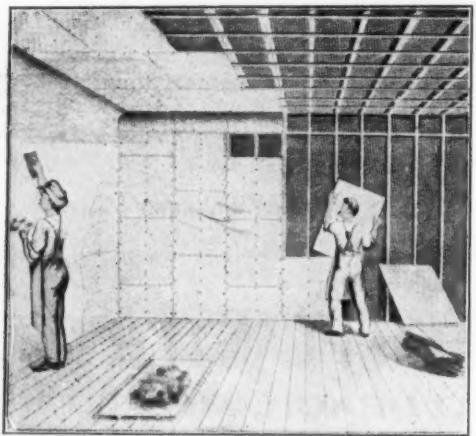
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Incorporated 1895. WEBSTER CITY, IOWA.

SPECIAL MACHINERY AND FORMULAS

FOR THE MANUFACTURE OF

WOOD FIBER PLASTER, FIRE PROOF-
ING AND KINDRED PRODUCTS.

The Ohio Fiber Machinery Co.

We furnish the latest improved FIBER MACHINE, (fully patented), also FORMULAS, on a reasonable proposition. The strongest companies and oldest manufacturers are operating under my contracts.

WRITE FOR TERRITORY.

J. W. VOGLESONG,
GENERAL MANAGER.

Elyria, Ohio.

DRYERS

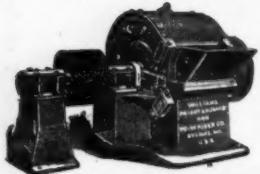
For Limestone, Shale, Sand, Slag, Marl, Coal, Ores and All Other Materials. ↗

RUGGLES-COLES ENGINEERING CO.,

39 Cortlandt Street, - - - - - NEW YORK.

1290 Old Colony Building, - - - - - CHICAGO.

THE WILLIAMS PATENT CRUSHER AND PULVERIZER CO.



MANUFACTURE
CRUSHERS AND PULVERIZERS

FOR ALL MATERIAL ENTERING
CEMENT, LIME, ART STONE and PHOSPHATE.
2711 N. Broadway. ST. LOUIS.
Gen'l Sales Dept., 545 Old Colony Bldg., Chicago, Ill.
Western & Pacific: 42 Stuart St., San Francisco, Cal.

Improved Automatic DRIERS

Specially Adapted to Sand, Lime, Stone, Clay, Etc.
CAPACITY AND ECONOMY. NO WEAR AND TEAR.

American Process Company
62 WILLIAM STREET, NEW YORK, N. Y.

Swindell Patent Lime Burner

and Swindell Patent Water Seal Gas Producer.

The only successful method of Burning Lime
with Producer Gas.

40 per cent. increase in output of Kilns.
30 per cent. Saving in Fuel.

Eight Kilns in successful operation for past seven months at Toledo
White Lime Co.'s plant, Martin, Ohio.

WM. SWINDELL & BROS.

German National Bank Building,

PITTSBURGH, PA.

Tell 'em you saw it in ROCK PRODUCTS.

WE MANUFACTURE
The Finest Qualities Dry Mortar Colors,



Red (2 shades.) Black,
Buff, Brown, also
Makers of Graphite

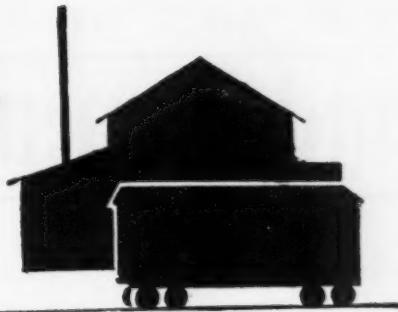
Mineral Red and
Purple Oxide
Paints.

Samples and Prices furnished
upon application.

We protect the Dealers.

When You Need a Car of

COOPERAGE



Order Through Us.

Shipments made from mills
located in Ohio, Indiana,
Illinois, Wisconsin, Michigan,
Pennsylvania. & & & &

In straight and mixed
carload lots for & & &

Lime, Salt and Cement.

We also Manufacture all kinds of

KEGS and BARRELS

FOR
**ROCK AND IRON
PRODUCTS.**

The Edwin Bell Co.

PITTSBURG, PA.

We Solicit Your Correspondence.

Tell 'em you saw it in ROCK PRODUCTS.

Buckeye Portland Cement Co.

ESTABLISHED 1888.

Manufacturers of the celebrated
"Buckeye" brand of

Portland Cement

"Buckeye" has stood the wear and tear in many important places for the past fifteen years and under the new process of manufacture is now better than ever :: :: ::

WE INVITE YOUR
CORRESPONDENCE.

Bellefontaine, Ohio.

The Best Portland Cement Is

"LEHIGH"

MANUFACTURED BY

Lehigh Portland
Cement Co.

ALLEN TOWN, PA.

Write for Catalogue.

Capacity, 4,000,000 Yearly.



"LIMOID"
SEWER PIPE
FIRE BRICK
PLASTER, ETC.



Charles Warner Company.



LAND TITLE BUILDING,
PHILADELPHIA.

WILMINGTON,
DELAWARE.



BANNER CEMENT CO.,
MAKERS OF THE FAMOUS BANNER BRAND OF
LOUISVILLE CEMENT.

Guaranteed that 90 per cent. will pass a
ten thousand Mesh Sieve.

WE SELL TO DEALERS ONLY.

GENERAL OFFICE: MASONIC TEMPLE,

CHICAGO, ILL.

CHARLES W. GOETZ LIME & CEMENT CO.

MANUFACTURERS OF AND DEALERS IN

Glenwood Lime, Banner
Brand Louisville Cement,
Portland Cements and
Building Materials.



Tell 'em you saw it in ROCK PRODUCTS.

THE OMEGA PORTLAND CEMENT CO.

F. M. STEWART, President.
ISRAEL WICKES, Vice President.
GEO. H. SHARP, Superintendent.
HOMER C. LASH, Chemist
CHAS. F. WADE, Sec'y-Treas.



JONESVILLE, MICHIGAN.

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MANUFACTURER OF . . .

"CHICAGO AA"
PORTLAND CEMENT.

We make one brand only.

The best that can be made.

Elk Portland Cement



is made from LIME-ROCK AND SHALE. It is always uniform and is unexcelled for every kind of work for which cement is used. Write us for prices

Elk Portland Cement & Lime Co.
PETOSKEY, MICH.



PENINSULAR PORTLAND CEMENT CO.

MANUFACTURERS OF

High Grade Portland Cement

GENERAL OFFICE:
JACKSON, - - - MICHIGAN

Newaygo Portland Cement Co.

Sales Office: Michigan Trust Building,
GRAND RAPIDS, MICH.

Write us for prices. Send us your orders.



Red, Brown,
Buff and Black
**MORTAR
COLORS**

The Strongest and Most Economical in the Market.

Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO., CHATTANOOGA, TENN. SEF.

The Simplicity Building Block Machine

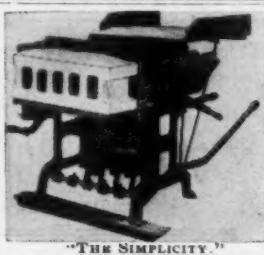
For the manufacturer of hollow or solid concrete building blocks. Adjustable for all sizes and shapes. Delivers the block on its side, a saving of labor. Wood pellets are used, other machines use iron pellets, a full set of which cost as much or more than price asked for our complete machine. **CONSIDER WELL BEFORE PURCHASING.** Agents wanted in every State.

THE STANDARD SAND & MACHINE COMPANY
CLEVELAND, OHIO.

Manufacturers of Mixers, Screens, Dryers, Conveyors, Etc., for equipping Building Block and Wall Plaster Plants. Ask for catalogue and prices.



THE AMERICAN HYDRAULIC STONE CO. Century Bldg., Denver, Col.



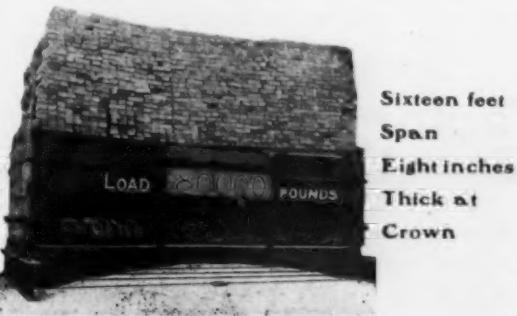
REVOLUTION IN BUILDING.
Fire Proof Buildings with

HOLLOW CONCRETE WALLS.
That will last for all time. You furnish seven parts of sand and gravel (or broken stone), one part cement, seven men (six unskilled) and we do the rest. Making by hand labor 1,000 square feet of Fire-proof wall in a 10 hour day. Ready for laying in 10 days. No burning—simply turn on the hose. No power necessary. Reward for proof of infringement. Patent Guaranteed.

Louisville Hydraulic Cement

Thirty million barrels used in important construction west of the Alleghenies.

Thorough reliability demonstrated by over seventy years' continuous use, most of the bridges, sewers and public works having been built with Louisville Cement.



Louisville Cement with two parts sand makes mortar as strong, after six months, as mortar made of Portland Cement with four parts sand.

The best work is the kind that accomplishes all the objects sought at least expense.

Illustrated Pamphlets Mailed on Application.

Western Cement Co.
281 W. Main St. Louisville, Ky.

N. LAPHAM CO.,

Rooms 1529, 1530, 1531 and 1532, 150 Nassau St., NEW YORK, N. Y.

SLACK COOPERAGE STOCK.

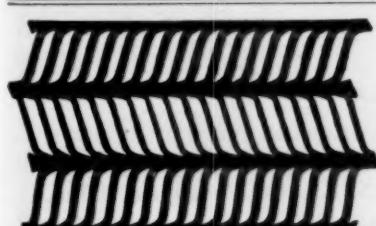
CEMENT AND LIME STOCK

A SPECIALTY.

MILLS: New York, Ohio, Kentucky, Virginia, Pennsylvania, Michigan, Tennessee and North Carolina.



ASH GROVE
WHITE LIME ASSOCIATION
MANUFACTURERS OF
High Grade
White Lime.
KANSAS CITY, MISSOURI.



Herringbone Expanded Steel Lath
is made by
The General Fireproofing Co.
Youngstown, Ohio,
who are also constructors of
Expanded Metal-Concrete Fireproofing.
OFFICES
NEW YORK CHICAGO PITTSBURG WASHINGTON

OZARK COOPERAGE CO.

MANUFACTURERS OF

Lime, Cement and Salt Cooperage Stock.

We are specialists and can supply your wants promptly.

Frisco Building,

ST. LOUIS, MO.

WHEELING WALL PLASTER CO.,

MANUFACTURERS AND JOBBERS

Wheeling Plaster and Builders Supplies.

WHEELING, - - WEST VIRGINIA.

Tell 'em you saw it in ROCK PRODUCTS.

E. C. EWEN, President,
Saginaw, Michigan.

F. KOMNICK, Vice-Pres.,
Elbing, Germany.

J. L. JACKSON, Sec. and Treas.,
Saginaw, Michigan.

The American Sandstone Brick Machinery Co.

.....MANUFACTURERS OF.....

The Komnick System Sandstone Brick Machinery.

52 Plants running in Europe and 9 plants running in the United States, others being installed in both countries.



Every part made in our own works and thoroughly tested before leaving our hands.

Factory and Office:

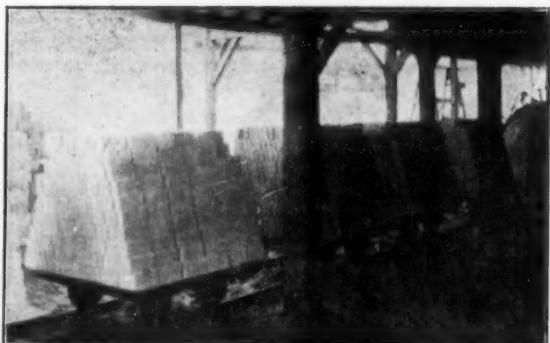
Schwarz System Brick Co.

8-10 Bridge Street,
NEW YORK.

SAND-LIME BRICK

Engineers and Builders of
SPECIAL MACHINERY

for the Sand-Lime Brick Industry.



Factories erected, equipped and put in running order under full guarantee.

We invite inspection of our plants.

ST. LOUIS EXHIBIT, MINES & METALLURGY BLDG., BLOCK 20-C.

NEW ERA CEMENT ROOF TILING

The Best Roofing Material in the World. The Most Profitable Enterprise of the Day.

INEXPENSIVE. They cost less than wooden shingles and half the price of slate.
EVERLASTING. The material improves with age and is indestructible, two parts of sharp sand and one part of Portland Cement being used.

HANDSOME. Can be made in all desirable colors which cannot fade and never need painting.

FIRE, DUST AND WATERPROOF. Fire has no effect on them; dust, rain or soot cannot find their way through this roof, as the tiles are double interlocking and form an impregnable sheet of cement.

STORMPROOF. Fastened by wire clasps from the inside, no storm can raise them.
NO SKILLED LABOR required to lay this roof, no nails or tools used. Common sense and common hands the only requirement.

NO ROOF BOARDS necessary, strips 1x3 inches placed 8½ inches apart do the business.

NO HEAVY ROOF CONSTRUCTION needed, as they weigh 120 lbs. less per square than slate.

OUR PATENTS cover the United States and Canada. We will dispose of them for any State, County or City. We manufacture our own machines and guarantee them.

SECURE YOUR TERRITORY IN TIME.

For further information write to

THE FURMAN CONSTRUCTION CO.
Main Office, 1101-1103 Chamber of Commerce, DETROIT, MICHIGAN.
Branch Offices, New York City, 211 Havemeyer Bldg.; Cleveland, O., 68-72 River St.

SAGINAW W. S., MICH.

MILES Concrete Building Block Machine

Patented Sept. 15, 1903. Other patents pending.

Moulds blocks face down.

Special designs made to order in all shapes and sizes.

Hard face, square edge, clear cut, any color, water proof, fire proof, frost proof, warm in winter, cool in summer.

More durable and less expensive than brick or natural stone.

Cores interchangeable.

Excels all others in ease and convenience of operation, quality and uniformity of blocks produced.

Equals any in variety of shapes.

A complete machine for contractors.

MILES CONCRETE BUILDING BLOCK MACHINE CO.

145 West Pearl St., JACKSON, MICHIGAN.
BOTH PHONES 653.

WOOD PLASTER

The Coming Wall Covering

WE ARE THE ORIGINATORS.

After several years of experimental work we have reached **SUCCESS** and our goods are recognized as of the highest quality.

We wish to establish our trade in every important market, and will give local capital and local talent an opportunity to go in with us in the erection and operation of

MIXING PLANTS

Using our IMPROVED MACHINERY and FORMULAS.
The management of the local plant to remain with LOCAL INTERESTS.
Write us for full information.

The ELYRIA WOOD PLASTER CO., Elyria, Ohio.

Tell 'em you saw it in ROCK PRODUCTS.

NOTHING SUCCEEDS LIKE SUCCESS

WATERLOO FACTORY BUILDING. Size 80 x 250 feet. Showing Evolution of H. S. Palmer's Patent Building Blocks.



Buildings of all Sizes and for all Purposes, and all Over the Country are being Erected with
HARMON S. PALMER'S PATENTED HOLLOW CONCRETE BUILDING BLOCKS.

A CARD TO THE BUILDING PUBLIC.

Returning from a ten weeks cruise in Europe I notice an affidavit from A. O. Tabor published in the May number of the Municipal Engineering that the buildings of the Waterloo Threshing Machine Co., and the Kemp Mfg. Co., were made with stone manufactured on some other machine than my own, and to say the least I consider this a pretty bold statement.

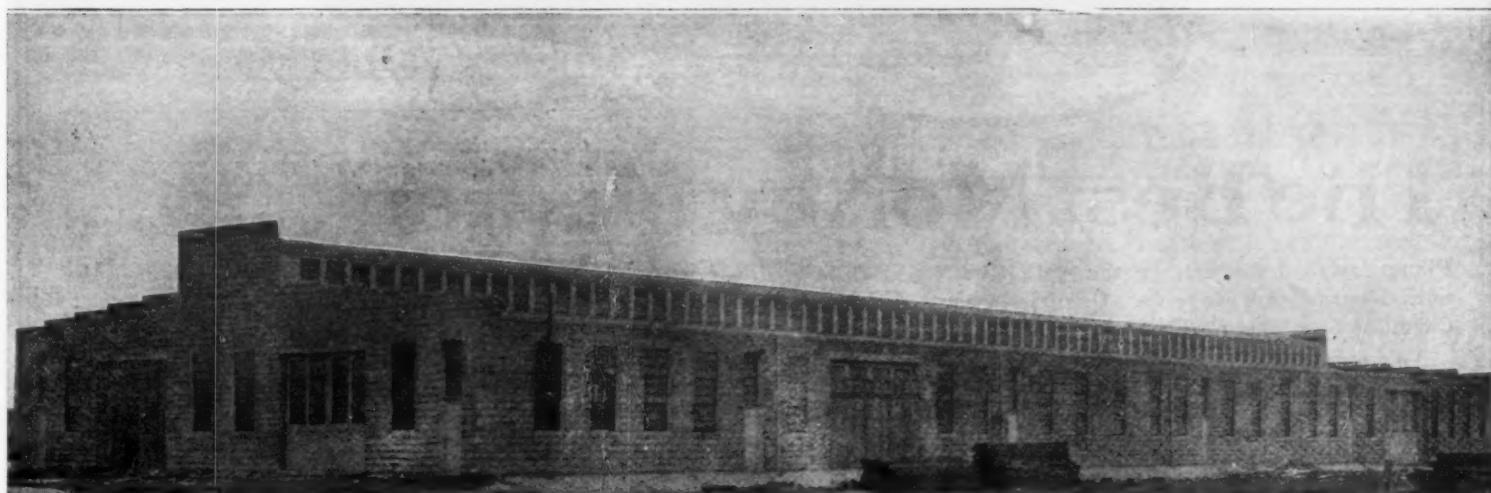
The facts are that the stones are the H. S. Palmer Patent Hollow Concrete Building Blocks, patented May 28th, 1901, and the machines on which they were made are, according to the decision of the United States Circuit Court for the Western District of Kentucky, (Thomas Speed, Clerk), Owensboro Division, and which on June 2d, granted a perpetual injunction against parties using the same make of machine, a direct infringement of the patents of H. S. Palmer, in the following words:

"That a perpetual injunction issue out of and under the seal of this Court, directed to the defendants XXXX, enjoining and restricting them, and each of them, from directly or indirectly using or selling or causing to be made, used or sold, directly or indirectly, in any manner, any building block machine or other apparatus containing, embodying or containing said inventions and improvements claimed and patented by said letters patent, and that said complainants do recover from said defendants the costs in this case, etc., etc."

It is not disputed that those stones were made by one A. O. Tabor, and that the buildings were erected with them, but that does not change the situation, the fact remaining the same, that the stones are H. S. Palmer's Patented Stones, and that the machines employed were simply machines embodying his inventions and patents, and with these anyone with the nerve and audacity could do the same thing.

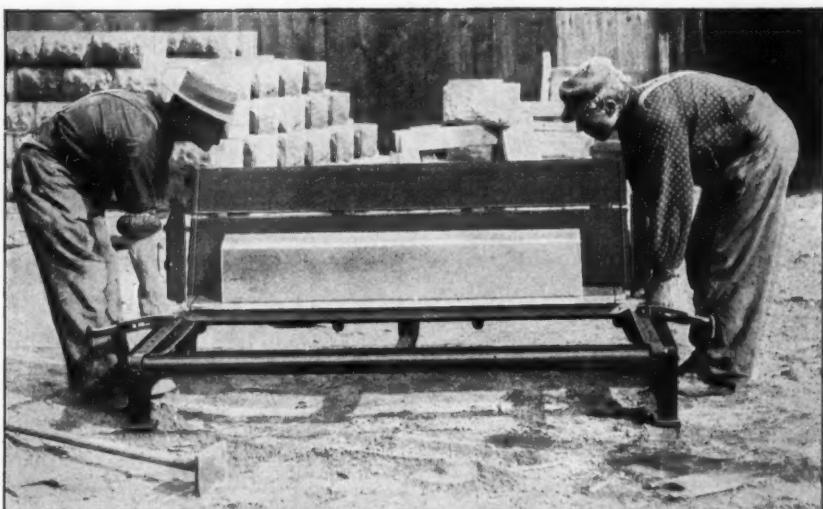
Parties are warned that several other suits are pending and that others will follow.

THE HARMON S. PALMER HOLLOW BUILDING BLOCK CO., WASHINGTON, D. C.



WATERLOO THRESHING MACHINE CO. 100 x 300 feet. H. S. Palmer's Hollow Building Blocks.

Tell 'em you saw it in ROCK PRODUCTS.



Showing Simple Method of Removing Large Stone from Machine.

How to Make Perfect ARTIFICIAL STONE

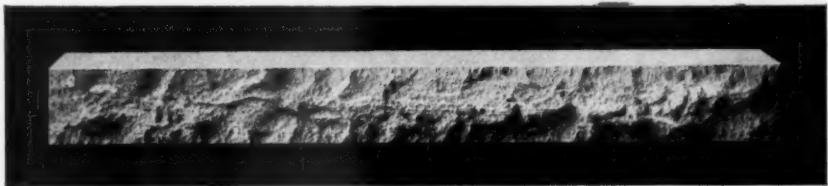
We have published a book telling how to make perfect cement stone. It tells how to test cement; what kind of material to use; what proportions to use; how to mix your composition and gives many formulas for making colored stone, etc. No cement block maker should be without this book. It is yours for the asking. (Free). Write for it today.

It might be the means of doubling your income. We should also like to send you our illustrated catalogue L of

The Hercules Cement Stone Machine.

It makes more sizes and designs of stone than any hollow block machine in existence. It makes in addition to hollow blocks, water table, window sills, lintels, steps, curbing, coping, etc. up to 5 feet long.

By the Hercules method you tamp directly upon the design, allowing the use of a 2 to 1 composition for the face of the stone about one-half inch thick and 5 to 1 composition for remainder of block. It makes stone that's impervious to moisture at minimum cost.



THE CENTURY CEMENT MACHINE CO., 179 West Main Street,
ROCHESTER, N. Y.

Sand-Lime Brick

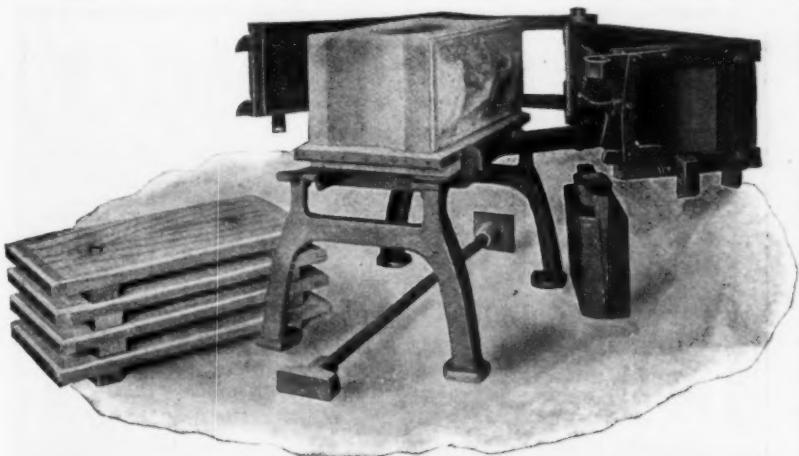


The Best Money Maker In This Country To-day

Plants installed complete on the AMERICAN SYSTEM equipped with AMERICAN MACHINERY, started and operated until 100,000 brick are made. Quality Guaranteed. No Failures. No Experimenting. No Royalties. No Secrets. No Chemicals. Send for Free Booklet.

AMERICAN SAND-LIME BRICK CO.
GREAT NORTHERN BUILDING, CHICAGO, ILL.

NEW YORK OFFICE; 39 Cortlandt St. SOUTHERN OFFICE; City Bank and Trust Co. Bldg., Mobile, Ala. SAN FRANCISCO OFFICE; 501 Rialto Bldg.



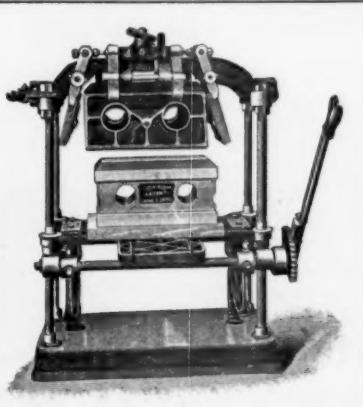
MILLER & HUNTINGTON,

129 S. Hill Street, JACKSON, MICH.

Snap Cement Building Block Machine

Collapsible core; machine swings clear of block, making it easily removed. Boards having cleats prevent cracking, rock faced or natural stone, easily changed.

CATALOGUE ON APPLICATION.



The Cottom Artificial Stone Blocks made on the "Cottom Machine"

Are Superior to All Others.

They are laid in the wall by pouring semi-liquid cement into and between them, the process being covered by patent, making A PERFECT WALL. For information address, :: :: ::

J. B. COTTOM, Manager, 46 Callahan Bank Bldg. Dayton, Ohio.

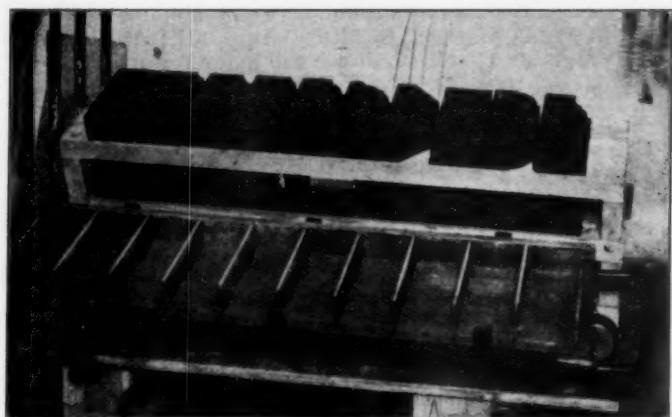
Our Machines are Simple, Complete, Inexpensive, Reliable.
Either Hollow or Solid Concrete Blocks

One Machine in a Section Means Many More Soon.

HERE IS A RECORD HARD TO BEAT—Out of 2,300 blocks in one run only ten were broken or imperfect. No dough-faced blocks produced, but a sharp rock face, rivaling granite or limestone for sharpness. We court comparison of our rock-faced block with anything in the United States. Price within the reach of all.

You can build your own house with our Machines and save money, even if you throw the molds away afterwards. Write For Particulars.

MICHIGAN CEMENT BLOCK MACHINERY COMPANY,
UNION CITY, MICHIGAN.



Here is what you have been looking for!

Cement or Lime Brick Machine

Makes 10 perfect brick per minute with two unskilled workmen.

Be your own brickmaker.

Can be changed from plain to ornamental brick or vice versa with no loss of time or extra expense.

E. W. SEAMANS,

97 Ottawa Street,

GRAND RAPIDS, MICH.

Tell 'em you saw it in ROCK PRODUCTS.

Companies Organized and SYSTEMS INSTALLED with the most modern EQUIPMENT.

STANTON SYSTEM CONCRETE SAND-LIME-BRICK.

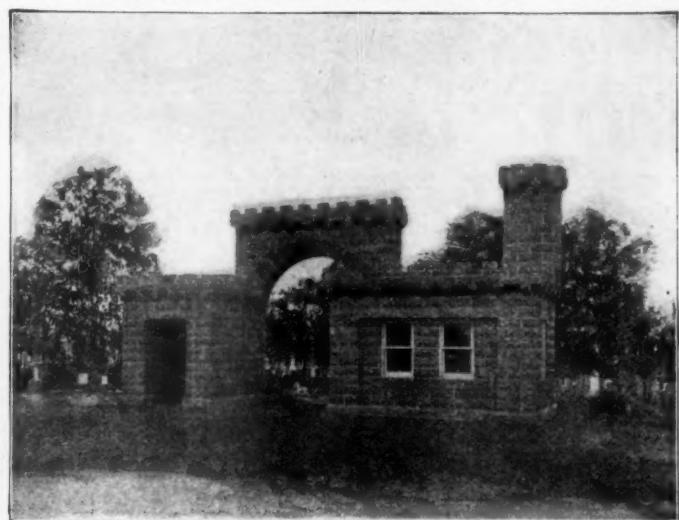
Comprising the entire line of COMPOSITION MATERIALS.

240 Housman Bldg., Active Operations, 150 Nassau St.,
GRAND RAPIDS, MICH. Laboratory and Present Address
11 Lorraine Block, NEW YORK CITY.
SCHENECTADY, N. Y.

My COMPANIES manufacture Concrete Stone, moulded and cast, hollow and solid; ornamental designs and trimmings; Key-stones and Arches; Window Heads and Sills, Etc. MONOLITHIC CONSTRUCTION, Foundations, Bridges, Sub-ways, Sea-walls, Retaining-walls, Watertight Cellars, Silos and Stables, Sidewalks and Curbs; also face, medium and common Brick.

ELMER E. STANTON,
Originator and Sole Owner.

Concrete Engineering, Experts, Inspectors and Directors
of Operations Furnished.



The stones for this arch were made, cured and laid up and the structure turned over and accepted all in two weeks after the contract was signed. Messrs. Cutshall & Flagg, of Brazil, Ind., were the stone manufacturers and contractors and it is needless to say that

Pettyjohn's Hollow Concrete Block Machine

was used as it would have been impossible with any other machine. Write for catalog.

PETTYJOHN BROS.,

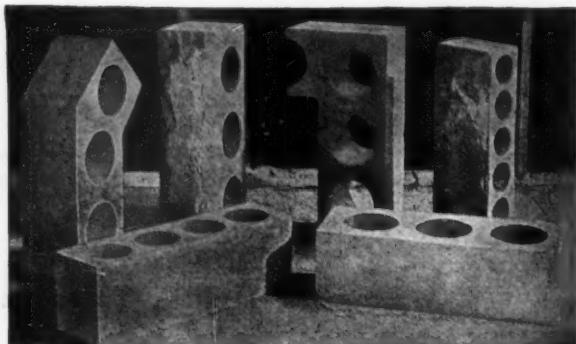
1314 N. First Street,

TERRE HAUTE, IND.

STONE CHEAPER THAN BRICK.

Made under the new method without
tamping or pressure on our
machine which costs but

\$50.00



We Make Seven Stones

in one operation 2 ft. 6 in. x 9 in. x 10 in. No
experiment; our work can be seen in thou-
sands of buildings. Send for detailed information.

STEVENS CAST STONE CO.,

808 Chamber of Commerce, CHICAGO, ILL.

BUILT WITH
HARMON S. PALMER'S
Hollow Concrete
Building Blocks
and Building
Block Machines

WANTED.

We want the
name of every
party selling,
buying or using any HOLLOW CONCRETE BUILDING BLOCK
MACHINES, as well as the location of every building erected
with HOLLOW CONCRETE BUILDING BLOCKS, without our
license, and for first information we will pay a reward.

The United States Circuit Court for the Western District of Kentucky at Owensboro, June 2, issued an injunction against Spaid & Bennett, restraining them from making or selling any machine or apparatus for making building blocks embodying or employing the inventions and improvements made and claimed by H. S. Palmer, in patents Nos. 375,377, Dec. 27, 1887; 623,686, April 25, 1899; 724,427 May 5, 1903, and 727,728, May 5, 1903.

Send for Free Catalogue or one dollar for album of fifty-five buildings made of these
patent blocks, some of the finest structures in the country.

Address the Law Department of

THE HARMON S. PALMER CO.

Owners of Basic Patents—H. S. PALMER.

1450 BINNEY STREET, WASHINGTON, D. C.
MACHINES AND TERRITORY FOR SALE.

SEND FOR PATENT CLAIMS FOR YOUR PROTECTION.



Residence built by John Driscoll, Appleton, Wis.

Tell 'em you saw it in ROCK PRODUCTS.

A. ANDERSON & SONS,

Quarriers and Manufacturers of

Barre Granite.

ALL WORK GUARANTEED FIRST-CLASS.

BARRE, VERMONT.

Monuments and Monumental Stock



Rough Stock, Polished Stock, Hammered Stock or Finished Jobs. ☺ ☺

We operate our own quarries and have every modern facility for the handling of this work and guarantee prompt service. Get a sample of our Iron Absorbent for removing stains from granite. :: :

MAGUIRE & O'HERON
East Milton, - Mass.

RED HILL GRANITE

Nothing else just like it. A beautiful blend of three colors.

Takes a high polish and is well suited for monumental work.

Rough base and building stock furnished at low prices.

Its color and grain make it a favorite with architects.

If you do not know the stone write for sample and prices.

MACHIAS GRANITE CO.

MACHIAS, MAINE.

The Granite Construction Company

BARRE, VT.

Manufacturers of Granite for Building Purposes

BUILDING WORK MAUSOLEUM WORK STREET WORK
DIMENSION STONE PAVING BLOCKS CRUSHED STONE

THE ROGERS GRANITE CO.

Vault Work and Monumental Work
Manufactured from best Barre Granite.

Estimates cheerfully furnished on all classes of Work.

P. J. ROGERS, Manager.

Barre, Vermont.



No. 52. Trunion Side Dump Car.

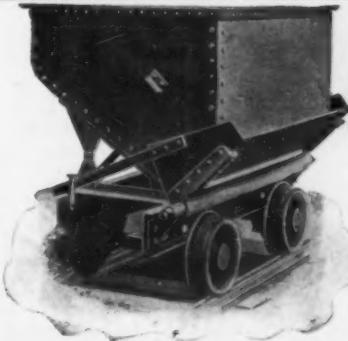


No. 10. Heavy Flat Car for Stone Mills.

THE CLEVELAND CAR CO.

WEST PARK, (P. O.) OHIO.

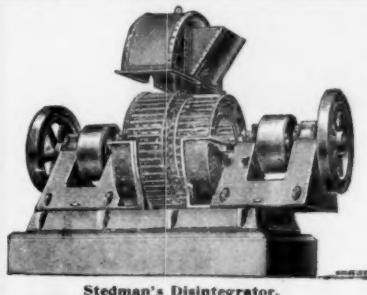
MANUFACTURERS AND BUILDERS OF



No. 521. One Side Dump Car.

Steel Cars and Industrial Railway Equipment. Turntables, Switches, Crossings, Portable Track, Etc.

COMPLETE ESTIMATES FURNISHED.



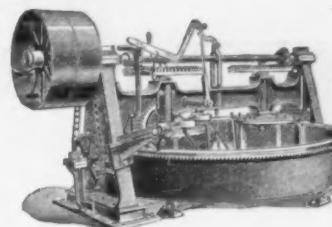
Stedman's Disintegrator.

OUR Disintegrators

grind Lime, Hydrated Lime and Gypsum,
Fertilizer, Coal and Clay.

Our Mixers are well ADAPTED to both WET
and DRY mixing, wet or dry
slaking of lime. A fine mixer for mortar and plaster. An ideal
fertilizer mixer.

The STEDMAN FOUNDRY & MACHINE WORKS,
AURORA, INDIANA.



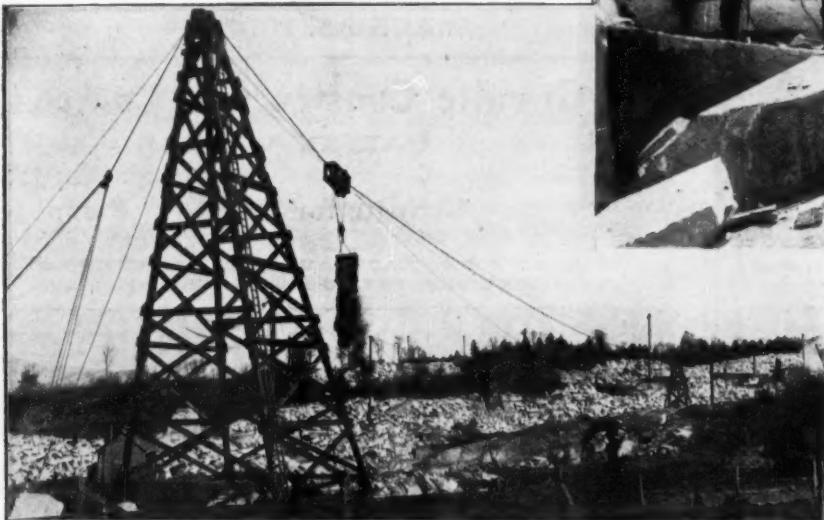
Stedman's Double Mixer.

"Rock Products" Does Things for Advertisers. Ask them.

Tell 'em you saw it in ROCK PRODUCTS.

Mc DONALD, CUTLER & CO., Barre, Vermont.

Quarry Owners and Manufacturers of
**Monuments, Mausoleums
 AND BUILDING WORK**



WE CAN FURNISH
Light and Dark Medium Granite
 Orders For The Trade Solicited.

The Langefeld Granite Co.

Dimension, Building Stock
 and Underpinning.

Cross-Walk Stone, Curbstone and
 Paving Blocks Constantly on Hand.

THE BEST
WHITE BARRE GRANITE
 From Our Own Quarry.

The Langefeld Granite Co.
 AUG. J. LANGEFELD, Manager.
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WOODBURY GRANITE CO.



We make a specialty of rough stock orders and of finished vaults. Try us, we can give you prompt delivery.

Two shades—Woodbury Gray and Hardwick White—the whitest granite known.

WOODBURY GRANITE CO.,
 HARDWICK, - - - - - VERMONT.

BARRE GRANITE QUARRY MEN AND MANUFACTURERS.

JOHN E. SMITH.

ESTABLISHED 1868.

DONALD SMITH.

E. L. SMITH & CO., QUARRY OWNERS AND WHOLESALE DEALERS IN
Light, Medium and Dark Barre Granite.
MONUMENTS AND VAULTS.

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Address THE FRANCIS PUBLISHING CO.,
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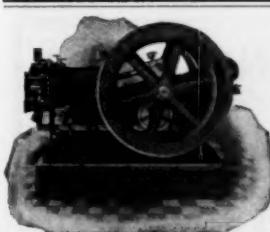


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Sand, 98 per cent. Silica, suitable for core work, Iron and Steel work, Cement Block and Mortar. Also Fire Sand.

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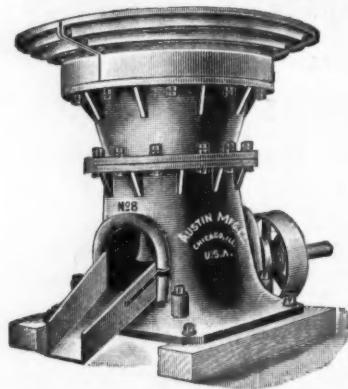
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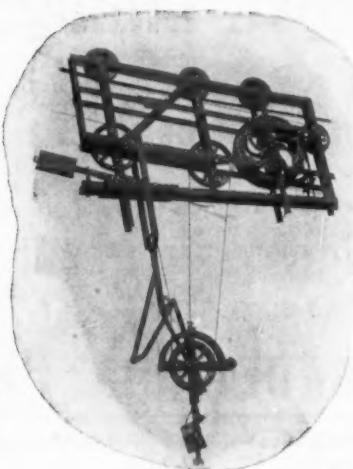
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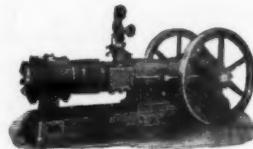
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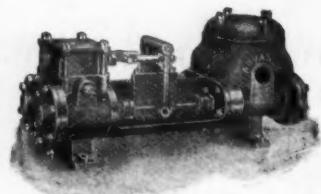
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STEAM PUMPRequires no engine, belt, oil, packing or
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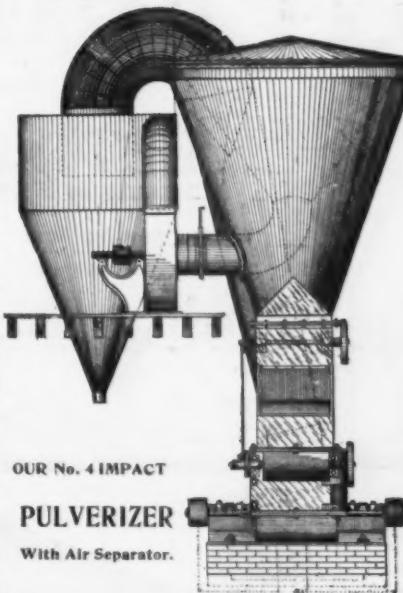
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**Centrifugal
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Self-balanced with Screen or Air Separators.

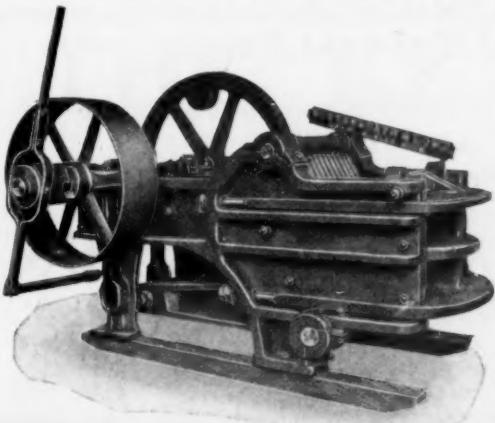
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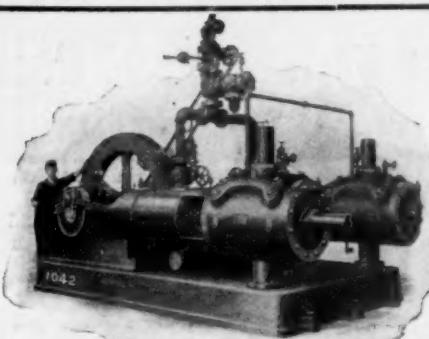
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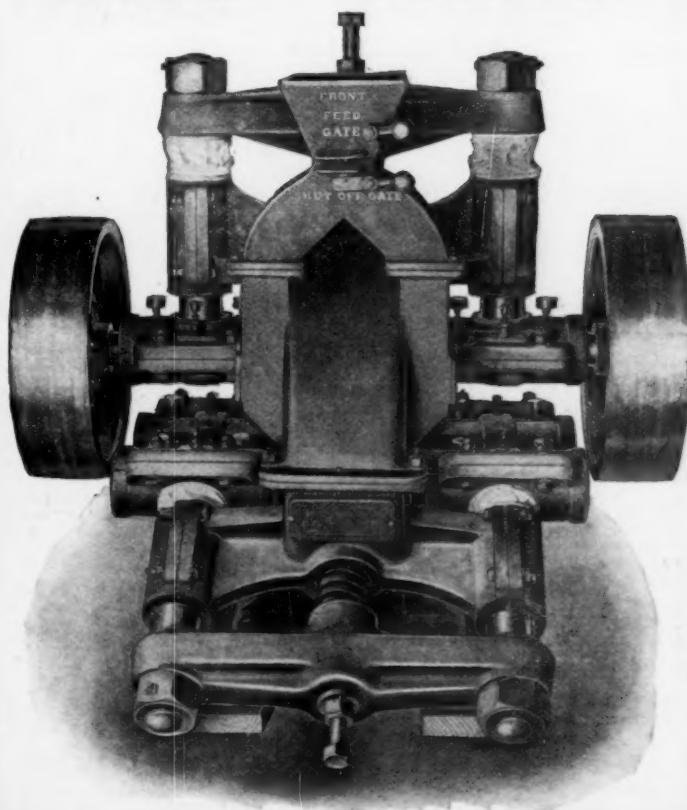
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You can easily figure from this what a Kent Mill would save for you.

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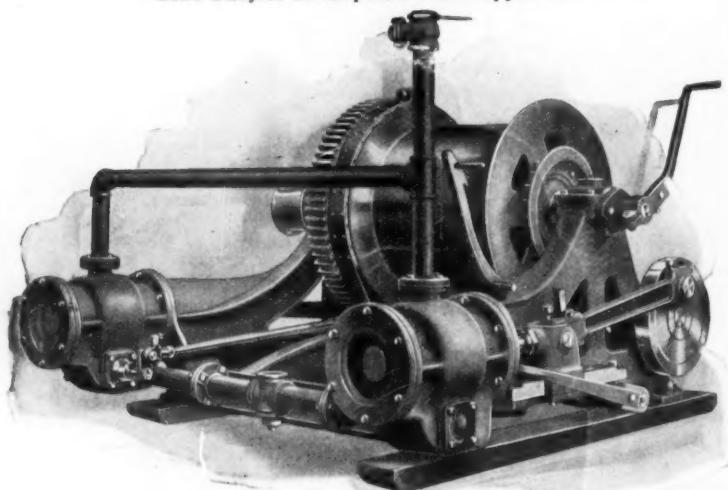
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Cylinders 8x10, Drum 14x20	\$496.00
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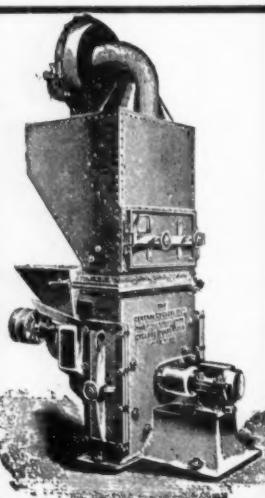
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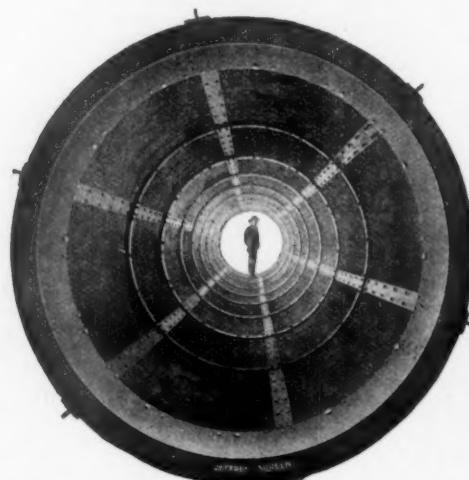
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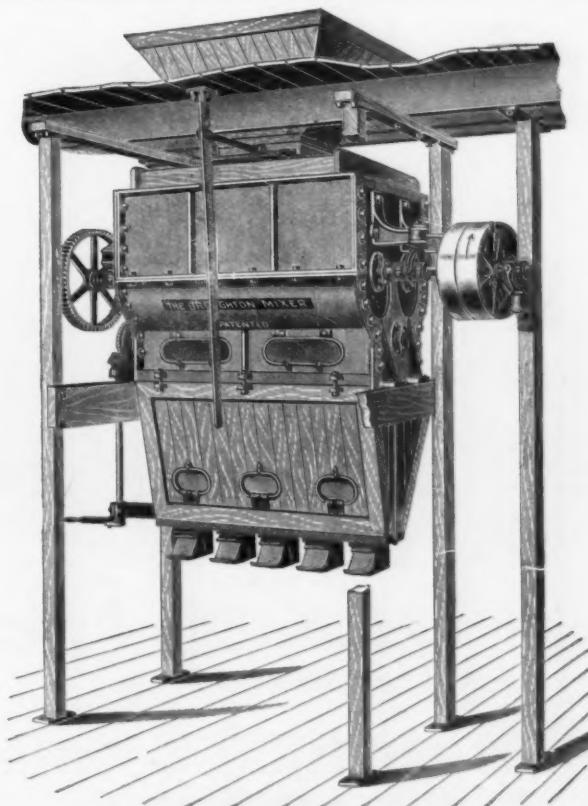
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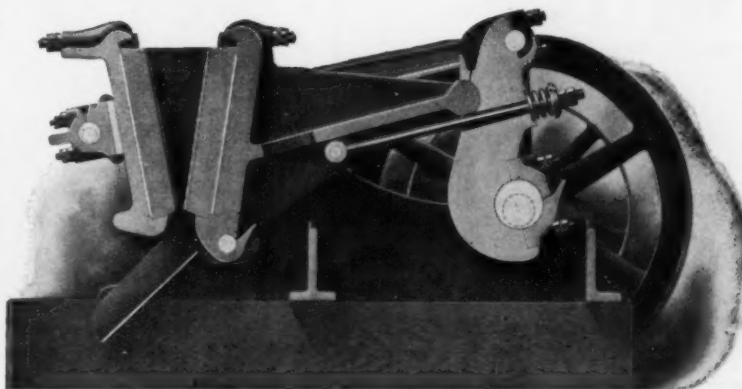
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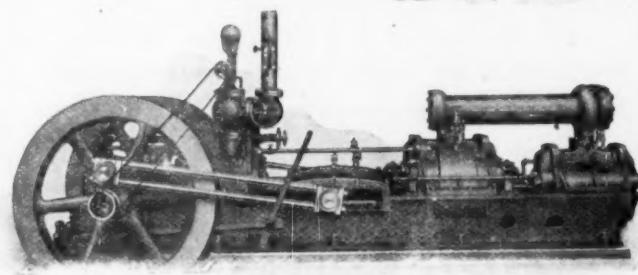
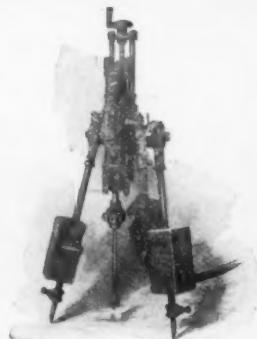
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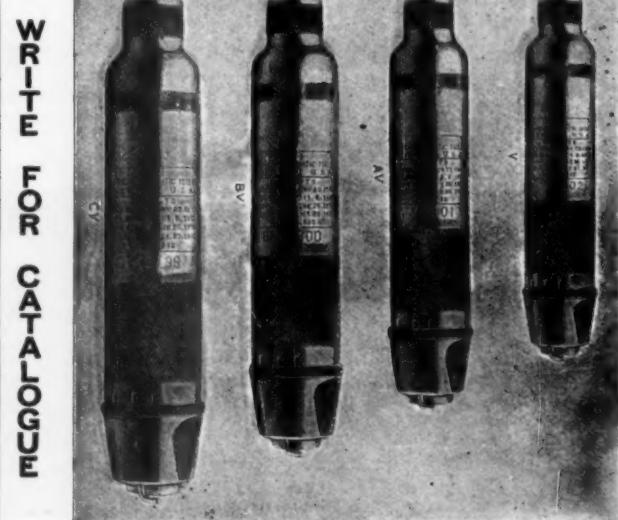
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Will drill a perfect round hole by twisting machine back and forth one-fourth turn. Drills from 2 to 12 inches per minute according to hardness of rock. Strikes 2500 blows per minute.

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Screw Feed Gangs,
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Wire Rip Saws,

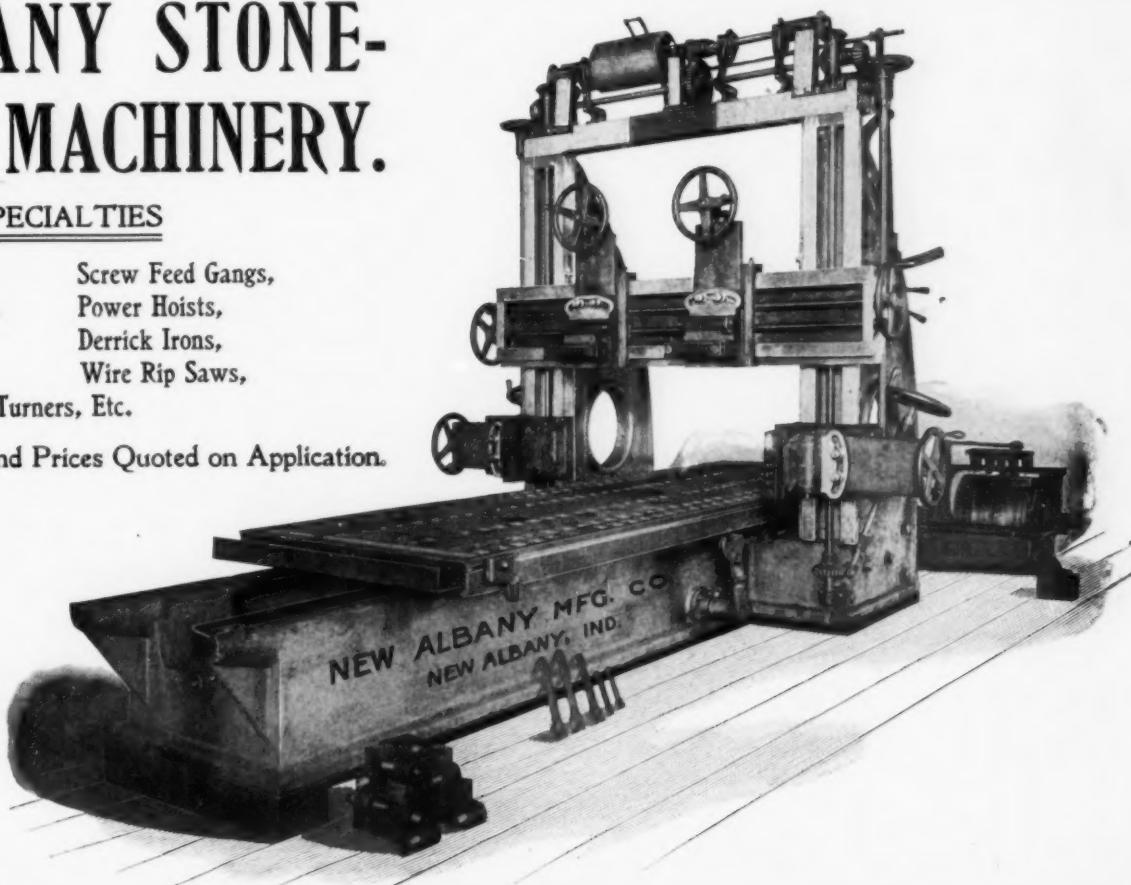
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